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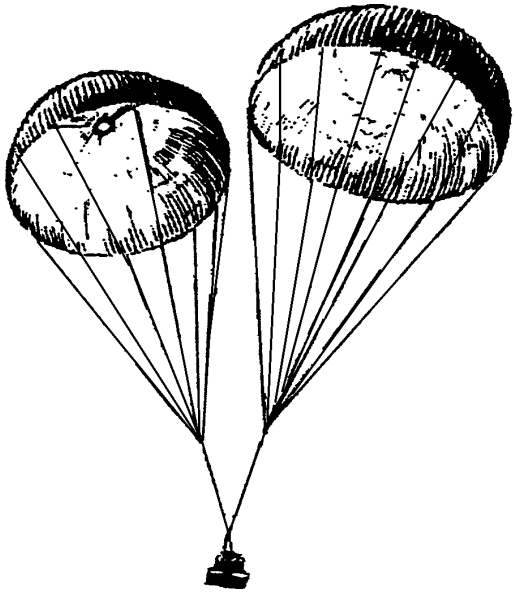
AIRDROP REVIEW AND MALFUNCTION/SAFETY ANALYSIS



PREPARED BY
THE US ARMY QUARTERMASTER SCHOOL
FORT LEE, VIRGINIA 23801-1502

AIRBORNE CREED

I am an Airborne trooper! A paratrooper!

I jump by parachute from any plane in flight. I volunteered to do it, knowing well the hazards of my choice.

I serve in a mighty Airborne Force—famed for deeds in war—renowned for readiness in peace. It is my pledge to uphold its honor and prestige in all I am—in all I do.

I am an elite trooper—a sky trooper—a shock trooper—a spearhead trooper. I blaze the way to far-flung goals—behind, before, above the foe's front line.

I know that I may have to fight without support for days on end. Therefore, I keep mind and body always fit to do my part in any airborne task. I am self-reliant and unafraid. I shoot true, and march fast and far. I fight hard and excel in every art and artifice of war.

I never fail a fellow trooper. I cherish as a sacred trust the lives of men with whom I serve. Leaders have my fullest loyalty, and those I lead never find me lacking.

I have pride in the Airborne! I never let it down!

In peace, I do not shirk the dullest duty nor protest the toughest training. My weapons and equipment are always combat ready. I am neat of dress—military in courtesy—proper in conduct and behavior.

In battle, I fear no foe's ability, nor underestimate his prowess, power and guile. I fight him with all my might and skill—ever alert to evade capture or escape a trap. I never surrender, though I be the last.

My goal in peace or war is to succeed in any mission of the day—or die, if needs be, in the try.

I belong to a proud and glorious team—the Airborne, the Army, my Country. I am its chosen pride to fight where others may not go—to serve them well until the final victory.

I am a trooper of the sky! I am my Nation's best! In peace and war I never fail. Anywhere, anytime, in anything—I am AIRBORNE!

IN THIS ISSUE

VOLUME II - 1997

PREFACE

The airdrop review and malfunction/safety analysis is published by the US Army Quartermaster School in hopes that by "passing the word" the malfunction rate within the Armed Forces may be minimized. The review and analysis in this issue covers the period 1 May 1997 - 31 August 1997.

POC AND MAILING ADDRESS

The POC for Airdrop Malfunction Reports, Monthly Airdrop Summary Reports, and any other information concerning the Airdrop Review and Malfunction/Safety Analysis is Mr. Roger Hale. All correspondence for the above reports and analysis should be addressed to:

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REPORTS AND ANALYSES

The Malfunction Review Board met at Fort Lee, Virginia on 22 - 23 October 1997. A breakdown of the areas in which malfunctions occurred from 1 May through 31 August 1997 follows:

CATEGORY	QUANTITY
Containers/CRRC	16
Platforms	
LVAD	16
Personnel	19

All DD Forms 1748-2 (Airdrop Malfunction Report (Personnel-Cargo)) are reviewed, and any identifying information is removed. Block 24 is annotated to include both Army and Air Force references if only one is given. No grammatical editing is done to the reports.

PERSONNEL MALFUNCTION REPORTS AND ANALYSES

I. GENERAL				
1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT C-130	5. ACFT SER NO.
6. OPERATION/EXERCISE	7. DZ AND LOCATION	8. DATE AND TIME		
9. ACFT ALTITUDE (Feet) 800'	10. ACFT SPEED (Knots) 130 Knots	11. DZ ELEVATION (Feet) 328'	12. SURFACE WINDS (Knots) 4 Knots	13. VISIBILITY (Feet/Miles) Unlimited

II. PERSONNEL		
14. NAME (Last, First, MI), GRADE, SSAN, & UNIT	15. EQUIPMENT WORN BY JUMPER Full Combat	16. JUMPER'S POSITION IN ACFT #1 Jumper R/D #25 3rd Pass

17. TYPE PARACHUTE (Specify)	18. TYPE MALFUNCTION				19. NO. JUMPS
	SEMI-INVERSION	INVERSION	CIGARETTE ROLL	OTHER (SPECIFY)	
T-10C	PILOT CHUTE	BLOWN SECTION	BROKEN SUSPENSION LINE	High Altitude Entanglement	13

20. TYPE OF RESERVE	21. RESERVE FUNCTIONED PROPERLY (If "No" explain in item 31)	22. RESULTING INJURY
T-10 Reserve	☐ YES ☒ NO	None

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

High altitude entanglement occurred when both jumpers simultaneously exited the aircraft. Both canopies were fully inflated. Jumper number one had one of his suspension lines entangled with jumper number two's canopy release assembly. Jumper number two activated his reserve never inflated due to the slow rate of descent and altitude.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

The cause of the high altitude entanglement occurred when both jumpers simultaneously exited the aircraft. Jumper number two activated his reserve. It did not have enough time to inflate because of slow descent and the altitude.

CONTINUED ON NEXT PAGE

ANALYSIS: **1**

WHAT WAS THE MALFUNCTION?

High altitude entanglement.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. Jumpers not paying attention to fellow jumpers in the air.
2. Not maintaining a 50-foot separation between jumpers.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Place greater emphais on sustained airborne training.

I. GENERAL				
1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT	5. ACFT SER NO.
			Casa 212	

6. OPERATION/EXERCISE	7. DZ AND LOCATION	8. DATE AND TIME

9. ACFT ALTITUDE (Feet)	10. ACFT SPEED (Knots)	11. DZ ELEVATION (Feet)	12. SURFACE WINDS (Knots)	13. VISIBILITY (Feet/Miles)
12,500 ft AGL	110 Knots	480 Feet	5 Knots	Unlimited

II. PERSONNEL		
14. NAME (Last, First, MI), GRADE, SSAN, & UNIT	15. EQUIPMENT WORN BY JUMPER	16. JUMPER'S POSITION IN ACFT
	MC-4 Parachute System	5th Lift/2nd Pass

17. TYPE PARACHUTE (Specify)	18. TYPE MALFUNCTION						19. NO. JUMPS
		SEMI-INVERSION		INVERSION		CIGARETTE ROLL	OTHER (SPECIFY)	
MC-4		PILOT CHUTE		BLOWN SECTION		BROKEN SUSPENSION LINE	Hung Slider	1st

20. TYPE OF RESERVE	21. RESERVE FUNCTIONED PROPERLY (If "No" explain in item 31)	22. RESULTING INJURY
MC-4	[X] YES [ ] NO	None

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

After exiting aircraft at 12,500, jumper initiated main ripcord pull at 4,500 feet AGL. Jumper's main parachute inlfated normal and he noticed that his slider was hung up. Jumper, at this point, performed correct procedures. He pulled twice on his control line brake to 100% and performed a control check of his canopy. Jumper observed his rate of descent was faster than the other jumpers in the air and decided to cutaway his main canopy. Jumper had a good reserve canopy by 2,000 feet AGL and landed safely on intended DZ.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

After inspecting the MC-4 parachute system, no damage or abnormalities were found. The control line brakes were unstowed and the slider was down by the risers. Jumper performed correct procedures, but started to panic. Jumper fixed the problem, but he thought that he was falling faster and decided to cutaway. Jumper was falling relative to his fellow jumpers, just a little below a few jumpers, but there was more jumpers under canopy below him too. Jumper does not know that the rate of descent is faster when somebody performs a canopy controlability check. Also, the jumper's weight is a factor. The jumper was relative to the other jumpers in the air. He misjudged his fall rate due to inexperience. This was the first jump for the jumper. The jumper had a perfectly good main after he got the slider down.

CONTINUED ON NEXT PAGE

ANALYSIS: **2**

WHAT WAS THE MALFUNCTION?

1. There was no malfunction.
2. It was improper procedures.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

Panic and inexperience.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

1. Ensure jumper has proper training.
2. Train soldier in school environment.

I. GENERAL				
1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT	5. ACFT SER NO.
			Casa 212	

6. OPERATION/EXERCISE	7. DZ AND LOCATION	8. DATE AND TIME

9. ACFT ALTITUDE (Feet)	10. ACFT SPEED (Knots)	11. DZ ELEVATION (Feet)	12. SURFACE WINDS (Knots)	13. VISIBILITY (Feet/Miles)
12,500 ft AGL	110 Knots	480 Feet	5 Knots	Unlimited

II. PERSONNEL		
14. NAME (Last, First, MI), GRADE, SSAN, & UNIT	15. EQUIPMENT WORN BY JUMPER	16. JUMPER'S POSITION IN ACFT
	MC-4 Parachute System	8 Lift/1 Pass

17. TYPE PARACHUTE (Specify)	18. TYPE MALFUNCTION				19. NO. JUMPS
	SEMI-INVERSION	INVERSION	CIGARETTE ROLL	OTHER (SPECIFY)	
	PILOT CHUTE	BLOWN SECTION	BROKEN SUSPENSION LINE		
MC-4				Hung Slider	2nd

20. TYPE OF RESERVE	21. RESERVE FUNCTIONED PROPERLY (If "No" explain in item 31)	22. RESULTING INJURY
MC-4	[X] YES [ ] NO	None

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

After exiting the aircraft at 12,500 feet AGL, the jumper initiated the main ripcord pull at 4,500 feet AGL. The jumper's main parachute inflated normal, but he noticed the slider was half way down the suspension lines. The jumper pulled on his suspension line brakes three times and by 2,200 feet AGL, the soldier was still stuck. At this time the jumper decided to cutaway. The jumper had a good reserve canopy by 1,800 feet AGL and landed safe on the intended DZ.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

After inspecting the MC-4 parachute system, no damage or abnormalities were found. The slider was all the way down by the risers and there was no sign of knotted suspension lines. The jumper failed to perform a controlabilitiy check of his main parachute. Jumper was descending relative to other jumpers. Jumper did not follow proper procedures due to inexperience. The jumper cutaway and was under a good reserve canopy by 1,800 feet AGL. He landed safely on the DZ.

CONTINUED ON NEXT PAGE

ANALYSIS: **3**

WHAT WAS THE MALFUNCTION?

Hung up slider.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

Improper procedures.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

1. Ensure jumper has proper training.
2. Train soldier in school environment.

I. GENERAL				
1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT	5. ACFT SER NO.
				C-130

6. OPERATION/EXERCISE	7. DZ AND LOCATION	8. DATE AND TIME

9. ACFT ALTITUDE (Feet)	10. ACFT SPEED (Knots)	11. DZ ELEVATION (Feet)	12. SURFACE WINDS (Knots)	13. VISIBILITY (Feet/Miles)
12,500 Ft AGL	130 Knots	480 MSL	02-05 Knots	Unlimited

II. PERSONNEL		
14. NAME (Last, First, MI), GRADE, SSAN, & UNIT	15. EQUIPMENT WORN BY JUMPER	16. JUMPER'S POSITION IN ACFT
	MC-4	Ramp

17. TYPE PARACHUTE (Specify)	18. TYPE MALFUNCTION						19. NO. JUMPS
		SEMI-INVERSION		INVERSION		CIGARETTE ROLL	OTHER (SPECIFY)	
MC-4		PILOT CHUTE		BLOWN SECTION		BROKEN SUSPENSION LINE	On Pull	6

20. TYPE OF RESERVE	21. RESERVE FUNCTIONED PROPERLY (If "No" explain in item 31)	22. RESULTING INJURY
MC-4	[X] YES [ ] NO	

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

After exiting aircraft at 12,500 feet AGL, the jumper was performing the exercise of the jump as planned. At 7000 feet AGL, the jumper stated a slow turn to the left. At 4500 feet AGL, the instructor used a hand to stop his turn. At 4000 feet AGL, the jumper started his pull sequence. The jumper failed to locate his main ripcord. Jumper made a second attempt to pull the ripcord and failed, then he tried to go into his emergency procedures. The jumper located his cutaway pillow but failed to pull his reserve ripcord. The jumper's FF2 fired, pulling the main which pulled the RSL. The jumper was under good reserve at 2500 feet AGL and landed safetly on the DZ.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

A 100% TRI was done to the parachute system. No deficiencies or abnormalities were found. There was not an actual malfunction of the equipment. The jumper failed to activate his main parachute, due to inexperience. This was the sixth jump on this system for ths jumper. After the two attempts to activate the main failed, the jumper tried to perform cutaway procedues and landed safely on the DZ without further incident.

CONTINUED ON NEXT PAGE

ANALYSIS: **4**

WHAT WAS THE MALFUNCTION?

There was no malfunction. It was improper procedures.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

Inexperience.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

1. Ensure jumper has proper training.
2. Train soldier in school environment.

I. GENERAL				
1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT C-130	5. ACFT SER NO.
6. OPERATION/EXERCISE	7. DZ AND LOCATION	8. DATE AND TIME		
9. ACFT ALTITUDE *(Feet)* 1250 Feet	10. ACFT SPEED *(Knots)* 130 Knots	11. DZ ELEVATION *(Feet)* 280 Feet	12. SURFACE WINDS *(Knots)* 5-7 Knots	13. VISIBILITY *(Feet/Miles)* Clear

II. PERSONNEL		
14. NAME *(Last, First, MI)*, GRADE, SSAN, & UNIT	15. EQUIPMENT WORN BY JUMPER T-10C, T-10 Reserve, Ankle Braces	16. JUMPER'S POSITION IN ACFT #6 Jumper, Right Door

17. TYPE PARACHUTE *(Specify)*	18. TYPE MALFUNCTION						19. NO. JUMPS
		SEMI-INVERSION		INVERSION		CIGARETTE ROLL	OTHER *(SPECIFY)*	
T-10C		PILOT CHUTE		BLOWN SECTION		BROKEN SUSPENSION LINE	Entanglement	

20. TYPE OF RESERVE	21. RESERVE FUNCTIONED PROPERLY *(If "No" explain in item 31)*	22. RESULTING INJURY
T-10C Res	[X] YES [ ] NO	None

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

Upon exiting the aircraft, the jumpers said they were very close to each other. After counting to 4000 and feeling the opening shock, jumper #6 realized that one of his feet had become entangled in the suspension lines of jumper #5 and jumper #6's reserve parachute had been deployed. Jumper #5 and jumper #6 remained entangled, with three canopies overhead, all the way to the ground. Both jumpers landed safely. Jumper #6 said he does not know how he became entangled with jumper #5 nor does he know how his reserve became deployed. Jumper #6 said he did not purposely activate his reserve.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

Upon exiting the aircraft, jumper #6 and jumper #5 did not have a good one second interval, therefore, causing an entanglement. Both jumpers had full lift capabilities. When jumper #5 and jumper #6 became entangled, the suspension lines from jumper #5's parachute wrapped around jumper #6's reserve ripcord causing the reserve to deploy. The reserve functioned properly. Jumper #6 remained entangled with jumper #5 having three canopies fully open, all the way to the ground.

CONTINUED ON NEXT PAGE

ANALYSIS: **5**

WHAT WAS THE MALFUNCTION?

Entanglement

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. Jumpers not paying attention to fellow jumpers in the air.
2. Not maintaining a 50-foot separation between jumpers.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Place more emphasis on sustained airborne training.

I. GENERAL				
1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT	5. ACFT SER NO.
			C-130	

6. OPERATION/EXERCISE	7. DZ AND LOCATION	8. DATE AND TIME

9. ACFT ALTITUDE (Feet)	10. ACFT SPEED (Knots)	11. DZ ELEVATION (Feet)	12. SURFACE WINDS (Knots)	13. VISIBILITY (Feet/Miles)
800 AGL	130 Knots	387 MSL	8 Knots	Unlimited

II. PERSONNEL		
14. NAME (Last, First, MI), GRADE, SSAN, & UNIT	15. EQUIPMENT WORN BY JUMPER	16. JUMPER'S POSITION IN ACFT
	LCE, Alice w/Frame M-16, Wpns Case, Kevlar	Jumper 28 R/Door

17. TYPE PARACHUTE (Specify)	18. TYPE MALFUNCTION								19. NO. JUMPS
		SEMI-INVERSION		INVERSION		CIGARETTE ROLL	OTHER (SPECIFY)		
T-10		PILOT CHUTE		BLOWN SECTION		BROKEN SUSPENSION LINE	None		16

20. TYPE OF RESERVE	21. RESERVE FUNCTIONED PROPERLY (If "No" explain in item 31)	22. RESULTING INJURY
T-10	☐ YES ☐ NO	None

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

Jumper exited aircraft and found twisted suspension lines. Jumper then activated his reserve which failed to inflate. Jumper still had two twists when he landed.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

Jumper had poor exit and pulled reserve instead of bicycling to remove the twist.

CONTINUED ON NEXT PAGE

ANALYSIS: **6**

WHAT WAS THE MALFUNCTION?

Twisted suspension lines.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

Jumper exit. D-bags interact and twist from vortex of aircraft.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Soldier should bicycle out of twisted suspension lines.

I. GENERAL				
1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT C-112	5. ACFT SER NO.
6. OPERATION/EXERCISE	7. DZ AND LOCATION	8. DATE AND TIME		
9. ACFT ALTITUDE (Feet) 11,000 AGL	10. ACFT SPEED (Knots) 90	11. DZ ELEVATION (Feet) 3000 MSL	12. SURFACE WINDS (Knots) 4 - 6	13. VISIBILITY (Feet/Miles) Unlimited

II. PERSONNEL		
14. NAME (Last, First, MI), GRADE, SSAN, & UNIT	15. EQUIPMENT WORN BY JUMPER HALO Helmet, Gloves and LBE	16. JUMPER'S POSITION IN ACFT 6th of 11

17. TYPE PARACHUTE (Specify)	18. TYPE MALFUNCTION										19. NO. JUMPS
		SEMI-INVERSION		INVERSION		CIGARETTE ROLL	OTHER (SPECIFY)				
MC-4		PILOT CHUTE		BLOWN SECTION		BROKEN SUSPENSION LINE	AR2 Activation				124

20. TYPE OF RESERVE	21. RESERVE FUNCTIONED PROPERLY (If "No" explain in item 31)	22. RESULTING INJURY
MC-4	[X] YES [ ] NO	None

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

Jumper exited the aircraft at 11,000 feet AGL the sixth of an 11 man stick. At 9500 feet AGL, the jumper was flat and stable when his AR2 fired and activated his reserve parachute. The jumper landed on the DZ with a good reserve with no other incident. The setting on the AR2 was 5000 feet, 2000 feet above ground elevation. The AR2 had no deficiencies and was on the proper setting during JMPI.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

The AR2 was tested in the AR2 Test Chamber upon return from deployment and passed within tolerances. The jumper stated that he did not arm his AR2 until given the command. It is possible that the AR2 was armed prior to reaching the setting altitude which would have caused it to activate once the jumper had a fall rate greater than 80 ft/sec. No other problems have been discovered with the AR2.

CONTINUED ON NEXT PAGE

ANALYSIS: **7**

WHAT WAS THE MALFUNCTION?

AR2 high fire.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

Unknown. The matter is being looked into.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Stand by for information from Natick.

I. GENERAL				
1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT HH-60	5. ACFT SER NO.
6. OPERATION/EXERCISE	7. DZ AND LOCATION	8. DATE AND TIME		
9. ACFT ALTITUDE (Feet) 10,000	10. ACFT SPEED (Knots) 70	11. DZ ELEVATION (Feet) 12	12. SURFACE WINDS (Knots) 6	13. VISIBILITY (Feet/Miles) Unlimited

II. PERSONNEL		
14. NAME (Last, First, MI), GRADE, SSAN, & UNIT	15. EQUIPMENT WORN BY JUMPER None	16. JUMPER'S POSITION IN ACFT Left Cabin door Third in stick

17. TYPE PARACHUTE (Specify)	18. TYPE MALFUNCTION										19. NO. JUMPS
		SEMI-INVERSION		INVERSION		CIGARETTE ROLL	OTHER (SPECIFY)				
MT-1X		PILOT CHUTE		BLOWN SECTION		BROKEN SUSPENSION LINE	Line twists end cell closed				100

20. TYPE OF RESERVE	21. RESERVE FUNCTIONED PROPERLY (If "No" explain in item 31)	22. RESULTING INJURY
MT-1S	[X] YES [ ] NO	None

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

Malfunction jumper performed a normal exit and stable freefall until ripcord pull at 3500 feet. The parachute deployed with two line twists and end cell closures on the right side. Canopy became entangled in suspension lines as the jumper atttempted to clear the twists. Jumper performed a cut-away at 2000 feet and landed safely.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

The canopy was recovered and delivered to the rigger's shop for analysis. There was no obvious cause for the malfunction, and no damage to any component. Canopy measurement and porosity were within limits.

CONTINUED ON NEXT PAGE

ANALYSIS: **8**

WHAT WAS THE MALFUNCTION?

1. End cell closure.
2. Line twisted.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

Not sufficient information.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Not sufficient information.

I. GENERAL				
1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT C-141	5. ACFT SER NO.
6. OPERATION/EXERCISE	7. DZ AND LOCATION	8. DATE AND TIME		
9. ACFT ALTITUDE (Feet) 800 Ft AGL	10. ACFT SPEED (Knots) 130 Knots	11. DZ ELEVATION (Feet)	12. SURFACE WINDS (Knots) 3 Knots	13. VISIBILITY (Feet/Miles) 1/4 Mile

II. PERSONNEL		
14. NAME (Last, First, MI), GRADE, SSAN, & UNIT	15. EQUIPMENT WORN BY JUMPER Kevlar, LCE, Protective Mask, M1950, Weapon	16. JUMPER'S POSITION IN ACFT Left Door #22

17. TYPE PARACHUTE (Specify)	18. TYPE MALFUNCTION						19. NO. JUMPS
	☐ SEMI-INVERSION	☐ INVERSION	☐ CIGARETTE ROLL	OTHER (SPECIFY)			
T-10C	☐ PILOT CHUTE	☐ BLOWN SECTION	☐ BROKEN SUSPENSION LINE	Static Line Injury			7

20. TYPE OF RESERVE	21. RESERVE FUNCTIONED PROPERLY (If "No" explain in item 31)	22. RESULTING INJURY
T-10	☐ YES ☐ NO	Torn Left Bicep

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

Static line injury to left arm and bicep. The bicep was torn away a total of 75 percent.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

The cause of this injury was jumper error. He failed to keep his elbow up and arm extended and locked out. He also failed to properly hand off his static line to the jumpmaster.

CONTINUED ON NEXT PAGE

ANALYSIS: **9**

WHAT WAS THE MALFUNCTION?

Static line injury.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

Improper static line control.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Sustained airborne training.

I. GENERAL				
1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT C141	5. ACFT SER NO.
6. OPERATION/EXERCISE	7. DZ AND LOCATION	8. DATE AND TIME		
9. ACFT ALTITUDE (Feet) 1300 MSL	10. ACFT SPEED (Knots) 135 Knots	11. DZ ELEVATION (Feet) 479 Feet	12. SURFACE WINDS (Knots) 3 Knots	13. VISIBILITY (Feet/Miles)

II. PERSONNEL		
14. NAME (Last, First, MI), GRADE, SSAN, & UNIT	15. EQUIPMENT WORN BY JUMPER Alice Pack, Load Bearing Equipment, M-4, Ballistic Helmet	16. JUMPER'S POSITION IN ACFT #30 Left Door Last Jumper in Stick

17. TYPE PARACHUTE (Specify)	18. TYPE MALFUNCTION						19. NO. JUMPS
	☐ SEMI-INVERSION	☐ INVERSION	☐ CIGARETTE ROLL	OTHER (SPECIFY)			
T-10C	☐ PILOT CHUTE	☐ BLOWN SECTION	☐ BROKEN SUSPENSION LINE	Static Line Injury			15

20. TYPE OF RESERVE	21. RESERVE FUNCTIONED PROPERLY (If "No" explain in item 31)	22. RESULTING INJURY
T-10 Troop Chest	☐ YES ☐ NO	

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

Jumper exited the left door of the aircraft, getting his left upper arm misrouted through the static line causing a static line injury to his upper bicep.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

Jumper failed to keep proper control of his static line. He also failed to make eye contract with the safety prior to giving up static line control.

CONTINUED ON NEXT PAGE

ANALYSIS: **10**

WHAT WAS THE MALFUNCTION?

Static line injury.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

Improper static line control.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Sustained airborne training.

I. GENERAL				
1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT C-130	5. ACFT SER NO.
6. OPERATION/EXERCISE	7. DZ AND LOCATION	8. DATE AND TIME		
9. ACFT ALTITUDE (Feet) 1250	10. ACFT SPEED (Knots) 130	11. DZ ELEVATION (Feet) 280	12. SURFACE WINDS (Knots) Calm	13. VISIBILITY (Feet/Miles) Clear

II. PERSONNEL		
14. NAME (Last, First, MI), GRADE, SSAN, & UNIT	15. EQUIPMENT WORN BY JUMPER None	16. JUMPER'S POSITION IN ACFT CH #3 JMP #7 Left Door

17. TYPE PARACHUTE (Specify)	18. TYPE MALFUNCTION										19. NO. JUMPS
		SEMI-INVERSION		INVERSION		CIGARETTE ROLL		OTHER (SPECIFY)			
T-10C		PILOT CHUTE	X	BLOWN SECTION		BROKEN SUSPENSION LINE					5

20. TYPE OF RESERVE	21. RESERVE FUNCTIONED PROPERLY (If "No" explain in item 31)	22. RESULTING INJURY
T-10 Res	[X] YES [ ] NO	None

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

Jumper stated that during his second point of performance, he noticed he had a hole in his canopy larger than a Kevlar. From my position, I noticed the hole before the jumper activated his reserve. I also noticed that he was not falling faster then his fellow jumpers. Jumper also stated that upon noticing the hole, he deployed his reserve out of panic. The jumper landed safely and was not injured.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

Parachute was unavailable for technical rigger inspection. Parachute was placed in repack inventory by error. Cause of canopy hole is unknown.

CONTINUED ON NEXT PAGE

ANALYSIS: **11**

WHAT WAS THE MALFUNCTION?

Hole in parachute.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

Improper pack procedures.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Follow proper packing procedures.

I. GENERAL				
1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT C-130	5. ACFT SER NO.
6. OPERATION/EXERCISE	7. DZ AND LOCATION	8. DATE AND TIME		
9. ACFT ALTITUDE (Feet) 1250	10. ACFT SPEED (Knots) 130	11. DZ ELEVATION (Feet) 280 Feet	12. SURFACE WINDS (Knots) Calm	13. VISIBILITY (Feet/Miles) Unlimited

II. PERSONNEL		
14. NAME (Last, First, MI), GRADE, SSAN, & UNIT	15. EQUIPMENT WORN BY JUMPER T-10C/T-10 Reserve/ Alice Pack	16. JUMPER'S POSITION IN ACFT CHLK #3 JUMPER #2 RIGHT DOOR

17. TYPE PARACHUTE (Specify)	18. TYPE MALFUNCTION								19. NO. JUMPS
		SEMI-INVERSION		INVERSION		CIGARETTE ROLL	OTHER (SPECIFY)		
T-10C		PILOT CHUTE	X	BLOWN SECTION		BROKEN SUSPENSION LINE			

20. TYPE OF RESERVE	21. RESERVE FUNCTIONED PROPERLY (If "No" explain in item 31)	22. RESULTING INJURY
T-10 Res	☐ YES ☐ NO	None

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

Jumper exited the aircraft and during his second point of performance, he saw holes in his parachute. He determined that he was not falling faster than the other jumpers and dd not activate his reserve. He landed without injury. Inspection of the canopy revealed friction burn marks and several tears on gores 14-16, section 2-3. Anti-inversion net on 13-14 was torn in several places, and the net was torn 1-3 from the suspension lines 11-14.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

As a result of the inspection, it was determined that during the pack process while folding gores, #15 and 16 were sucked into the air channel. Subsequently 15 and 16 were not dressed at flat fold. The anti-inversion net was not placed correctly into the deployment bag. As a result during the deployment phase the anti-inversion net came in contact with the canopy and caused several tears and friction burns which caused the blown section. The anti-inversion net not being properly dressed and folded resulted in it being torn away from the suspension lines.

CONTINUED ON NEXT PAGE

ANALYSIS: **12**

WHAT WAS THE MALFUNCTION?

Hole in parachute.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

Improper pack procedures.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Follow proper packing procedures.

I. GENERAL				
1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT C-130	5. ACFT SER NO.
6. OPERATION/EXERCISE	7. DZ AND LOCATION	8. DATE AND TIME		
9. ACFT ALTITUDE *(Feet)* 1250	10. ACFT SPEED *(Knots)* 130	11. DZ ELEVATION *(Feet)* 280 Feet	12. SURFACE WINDS *(Knots)* Calm	13. VISIBILITY *(Feet/Miles)* Unlimited

II. PERSONNEL		
14. NAME *(Last, First, MI)*, GRADE, SSAN, & UNIT	15. EQUIPMENT WORN BY JUMPER T-10C/T-10 Res	16. JUMPER'S POSITION IN ACFT CHLK #10 JUMPER #4 LEFT DOOR

17. TYPE PARACHUTE *(Specify)*	18. TYPE MALFUNCTION								19. NO. JUMPS
		SEMI-INVERSION		INVERSION		CIGARETTE ROLL	OTHER *(SPECIFY)*		
T-10C		PILOT CHUTE	X	BLOWN SECTION		BROKEN SUSPENSION LINE	Entanglement		3

20. TYPE OF RESERVE	21. RESERVE FUNCTIONED PROPERLY *(If "No" explain in item 31)*	22. RESULTING INJURY
T-10 Res	☐ YES ☐ NO	None

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

Jumper #1 exited the left door of the aircraft at the same time as the jumper from the right door (Jumper #2). The jumpers immediately became entangled. Jumper #1's canopy did not inflate and subsequently became entangled with Jumper #2. The anti-inversion net hooked on and subsequently activated the safety clips of the canopy release assembly of Jumper #2's parachute harness. Jumper #2 managed to push the canopy away and subsequently succeeded. Jumper #1's canopy then inflated. Both jumpers separated and landed safely. No reserve was activated during this incident. Neither jumper was hurt. Damage to the canopy included gores #6, 11, 18 21, 23, 24, 25, and 26, burns in sections 4 and 5, holes in gores #5 and 20. The anti-inversion net was torn between gores 11 and 12.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

As the result of the inspection, it was determined that Jumper #1's parachute sustained damage to the canopy and anti-inversion net upon its final opening after coming free of the safety clip of Jumper #2. When the parachute worn by jumper #1 did catch air, the canopy brushed against the suspension lines of Jumper #2's parachute causing burns and then eventually led to the holes. The anti-inversion net was torn when it got hung up on Jumper #2's safety clips.

CONTINUED ON NEXT PAGE

ANALYSIS: **13**

WHAT WAS THE MALFUNCTION?

Entanglement.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

Improper exit procedures.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Emphasis on sustained airborne training.

I. GENERAL				
1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT	5. ACFT SER NO.
			C-130	

6. OPERATION/EXERCISE	7. DZ AND LOCATION	8. DATE AND TIME

9. ACFT ALTITUDE (Feet)	10. ACFT SPEED (Knots)	11. DZ ELEVATION (Feet)	12. SURFACE WINDS (Knots)	13. VISIBILITY (Feet/Miles)
1250	130	280 Feet	Calm	Unlimited

II. PERSONNEL		
14. NAME (Last, First, MI), GRADE, SSAN, & UNIT	15. EQUIPMENT WORN BY JUMPER	16. JUMPER'S POSITION IN ACFT
	T-10C/T-10 Res	Chlk #5, left door

17. TYPE PARACHUTE (Specify)	18. TYPE MALFUNCTION								19. NO. JUMPS
		SEMI-INVERSION		INVERSION		CIGARETTE ROLL	OTHER (SPECIFY)		
T-10C		PILOT CHUTE	X	BLOWN SECTION		BROKEN SUSPENSION LINE			3

20. TYPE OF RESERVE	21. RESERVE FUNCTIONED PROPERLY (If "No" explain in item 31)	22. RESULTING INJURY
T-10 Res	☐ YES ☐ NO	None

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

Jumper exited the aircraft and during his second point of performance saw a hole in his parachute. He determined that he was not falling faster than other jumpers and did not activate his reserve. He landed without injury. Inspection of the canopy revealed holes and burns in sections 4 and 5 of gores 4-8, 10, 13-17, and 21. The radial tape was torn from the seams on 4, 5, and 13 sections 4 and 5.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

Upon investigation, it was determined that the parachute damage was caused by packer error in which the flat fold was not completely dressed and improperly put in the deployment bag. As a result during the deployment pahse, the canopy sustained friction burns which in turn led to the blown sections.

CONTINUED ON NEXT PAGE

ANALYSIS: **14**

WHAT WAS THE MALFUNCTION?

Hole in parachute.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

Improper pack procedures.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Ensure proper packing procedures are followed.

I. GENERAL				
1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT C-141	5. ACFT SER NO.
6. OPERATION/EXERCISE	7. DZ AND LOCATION	8. DATE AND TIME		
9. ACFT ALTITUDE (Feet) 1250	10. ACFT SPEED (Knots) 130	11. DZ ELEVATION (Feet) 280 Feet	12. SURFACE WINDS (Knots) Calm	13. VISIBILITY (Feet/Miles) Unlimited

II. PERSONNEL		
14. NAME (Last, First, MI), GRADE, SSAN, & UNIT	15. EQUIPMENT WORN BY JUMPER T-10C/T-10 Res/M1950 Alice Pack	16. JUMPER'S POSITION IN ACFT Chlk #8/Jumper #4

17. TYPE PARACHUTE (Specify)	18. TYPE MALFUNCTION						19. NO. JUMPS
	☐ SEMI-INVERSION	☐ INVERSION	☐ CIGARETTE ROLL	OTHER (SPECIFY)			
T-10C	☐ PILOT CHUTE	☐ BLOWN SECTION	☐ BROKEN SUSPENSION LINE	Mid-Alt Entanglement			4

20. TYPE OF RESERVE	21. RESERVE FUNCTIONED PROPERLY (If "No" explain in item 31)	22. RESULTING INJURY
T-10 Res	☐ YES ☐ NO	None

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

Entanglement mid air landed safely together. No reserve activated and no injuries. No damage occurred to either canopy.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

Jumpers exited aircraft. There was plenty of space separating them. They failed to perform the third point of performance. They entangled mid altitude and landed safely. They did not activate reserve and no injury resulted.

CONTINUED ON NEXT PAGE

ANALYSIS: **15**

WHAT WAS THE MALFUNCTION?

Entanglement

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. Jumpers not paying attention to fellow jumpers in the air.
2. Not maintaining a 50-foot separation between jumpers.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Place more emphasis on sustained airborne training.

I. GENERAL				
1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT C-130	5. ACFT SER NO.
6. OPERATION/EXERCISE	7. DZ AND LOCATION	8. DATE AND TIME		
9. ACFT ALTITUDE *(Feet)* 1250	10. ACFT SPEED *(Knots)* 130	11. DZ ELEVATION *(Feet)* 280 Feet	12. SURFACE WINDS *(Knots)* Calm	13. VISIBILITY *(Feet/Miles)* Unlimited

II. PERSONNEL		
14. NAME *(Last, First, MI)*, GRADE, SSAN, & UNIT	15. EQUIPMENT WORN BY JUMPER T-10C/T-10 Res/Alice Pack	16. JUMPER'S POSITION IN ACFT Chlk #1 Jumper #3

17. TYPE PARACHUTE *(Specify)*	18. TYPE MALFUNCTION						19. NO. JUMPS
		SEMI-INVERSION		INVERSION		CIGARETTE ROLL	OTHER *(SPECIFY)*	
T-10C		PILOT CHUTE		BLOWN SECTION		BROKEN SUSPENSION LINE	Entanglement	4

20. TYPE OF RESERVE	21. RESERVE FUNCTIONED PROPERLY *(If "No" explain in item 31)*	22. RESULTING INJURY
T-10 Res	☐ YES ☐ NO	None

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

Entanglement occurred in mid air. Both soldiers landed safely together. No reserve was activated. No damage occurred to either canopy.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

Jumpers exited the aircraft. They had plenty of space separating them. They failed to perform the third point of performance. They entangled mid air. They landed safely without injury. No reserve was activated.

CONTINUED ON NEXT PAGE

ANALYSIS: **16**

WHAT WAS THE MALFUNCTION?

Entanglement

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. Jumpers not paying attention to fellow jumpers in the air.
2. Not maintaining a 50-foot separation between jumpers.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Place more emphasis on sustained airborne training.

I. GENERAL				
1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT	5. ACFT SER NO.
			C-141	

6. OPERATION/EXERCISE	7. DZ AND LOCATION	8. DATE AND TIME

9. ACFT ALTITUDE (Feet)	10. ACFT SPEED (Knots)	11. DZ ELEVATION (Feet)	12. SURFACE WINDS (Knots)	13. VISIBILITY (Feet/Miles)
1250 AGL	130	280 Feet	2 Knots	5 Miles

II. PERSONNEL		
14. NAME (Last, First, MI), GRADE, SSAN, & UNIT	15. EQUIPMENT WORN BY JUMPER	16. JUMPER'S POSITION IN ACFT
	None	6th Jumper, Left Door 3rd Pass

17. TYPE PARACHUTE (Specify)	18. TYPE MALFUNCTION						19. NO. JUMPS
		SEMI-INVERSION		INVERSION		CIGARETTE ROLL	OTHER (SPECIFY)	
T-10C		PILOT CHUTE	X	BLOWN SECTION		BROKEN SUSPENSION LINE		

20. TYPE OF RESERVE	21. RESERVE FUNCTIONED PROPERLY (If "No" explain in item 31)	22. RESULTING INJURY
T-10	☐ YES ☒ NO	None Reported

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

Jumper exited the aircraft normally and during the second point of performance observed a hole in his parachute. He stated that he saw and heard the hole getting larger and activated his reserve. He attempted to deploy it twice using the down and away method but was unsuccessful both times. He subsequently landed with a fully deployed main parachute and undeployed reserve and did not sustain any injury. Inspection of the main canopy revealed a tear in gore 24, sections 4 and 5 including the diagonal seam and gore 23 sections 4 and 5. A 4-inch friction burn marks was found in the upper portion of gore 24, section 4. The radial tape on gore 24 was completely torn away from the radial seam throughout section 4 with no damage evident to the tape itself. Approximately 3 inches of the radial tape on gore 23, section 4 was torn away from the seam. There was no evidence of popped stitching anywhere else on the radial seams. However, the seared ends of a number of the apex vent lines were exposed and hard. This parachute was manufactured in Aug 89 and placed in service Nov 94. The first entry in the log record book was 6-11-96 and had been repacked 17 times. There was no evidence of any other damage to the canopy and no maintenance was evident or recorded.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

The investigation and inspection do not reveal any concrete evidence as to the cause of this malfunction.

CONTINUED ON NEXT PAGE

ANALYSIS: **17**

WHAT WAS THE MALFUNCTION?

Hole in parachute.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

Improper pack procedures.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Follow established procedures.

I. GENERAL				
1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT C-130	5. ACFT SER NO.
6. OPERATION/EXERCISE	7. DZ AND LOCATION	8. DATE AND TIME		
9. ACFT ALTITUDE *(Feet)* 800 AGL	10. ACFT SPEED *(Knots)* 130 Knots	11. DZ ELEVATION *(Feet)* 360 Feet	12. SURFACE WINDS *(Knots)* 0-3	13. VISIBILITY *(Feet/Miles)* 5+ Miles

II. PERSONNEL		
14. NAME *(Last, First, MI)*, GRADE, SSAN, & UNIT	15. EQUIPMENT WORN BY JUMPER LCE, Kevlar, M-1950 PRC 126 w/H250 Hand Set	16. JUMPER'S POSITION IN ACFT L22 Second Aircraft

17. TYPE PARACHUTE *(Specify)*	18. TYPE MALFUNCTION						19. NO. JUMPS
		SEMI-INVERSION		INVERSION	X	CIGARETTE ROLL	OTHER *(SPECIFY)*	
T-10C		PILOT CHUTE		BLOWN SECTION		BROKEN SUSPENSION LINE		30

20. TYPE OF RESERVE	21. RESERVE FUNCTIONED PROPERLY *(If "No" explain in item 31)*	22. RESULTING INJURY
T-10 Reserve	[X] YES [ ] NO	Suspected broken (L) knee

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

As the jumpers exited the aircrafts, I observed a jumper from the second aircraft (left door #22) went into a spin. His main parachute deployed but went into a cigarette roll. At about 150 feet, the jumper's reserve parachute deployed, causing him to land sustaining only minor injuries.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

Upon completion of investigation, it was determined there were two causes for this malfunction; poor exit and improperly positioned item of equipment. After questioning the jumper, he revealed that he had a bad exit, and at his second point of performance, he noticed his main parachute in a cigaertter roll configuration and deployed his reserve. The jumper landed before he noticed his reserve was fully deployed. The jumper was jumping with an exposed PRC-126 radio attached to the rear of his pistol belt. The H250 hand set was attached to the front of his LCE. Jumper also jumped an M1950 weapon case with an M-16 inside. The inspection of the jumper's main parachute revealed the H250 hand set with the cord attached was entangled with all 30 suspension lines of the main parchute approximately 6 inches below the anti-inversion net. This caused the main parachute air channel to be locked not allowing it to deploy, but in effect streamer. The inspection of the reserve parachute revealed that the delayed full deployment of the reserve parachute can be attributed possibly to the reserve pilot parachute (still attached to the apex) entangled with the T-10 main parachute and H250 hand set. The canopy of the reserve parachute was not entangled with the main parachute or any other object, yet the reserve pilot parachute was still attached to the apex of the reserve and not allowed to completely elongate. The resulting action was restricted reserve deployment.

CONTINUED ON NEXT PAGE

ANALYSIS: **18**

WHAT WAS THE MALFUNCTION?

Cigarette roll.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

Improper placement of equipment.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Ensure proper equipment rigging procedures are followed.

I. GENERAL				
1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT C-130	5. ACFT SER NO.
6. OPERATION/EXERCISE	7. DZ AND LOCATION	8. DATE AND TIME		
9. ACFT ALTITUDE *(Feet)* 1250 Feet	10. ACFT SPEED *(Knots)* 130 Knots	11. DZ ELEVATION *(Feet)* 280 Feet	12. SURFACE WINDS *(Knots)* 7 Knots	13. VISIBILITY *(Feet/Miles)* Good

II. PERSONNEL		
14. NAME *(Last, First, MI)*, GRADE, SSAN, & UNIT	15. EQUIPMENT WORN BY JUMPER T-10C/T-10 Res	16. JUMPER'S POSITION IN ACFT 2nd Jumper

17. TYPE PARACHUTE *(Specify)*	18. TYPE MALFUNCTION										19. NO. JUMPS
		SEMI-INVERSION		INVERSION		CIGARETTE ROLL		OTHER *(SPECIFY)*			
T-10		PILOT CHUTE		BLOWN SECTION		BROKEN SUSPENSION LINE					

20. TYPE OF RESERVE	21. RESERVE FUNCTIONED PROPERLY *(If "No" explain in item 31)*	22. RESULTING INJURY
T-10 Res	[X] YES [ ] NO	None Reported

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

Jumper #2 and jumper #4 exited the aircraft and had a high altitude entanglement. Jumper #3 checked his canopy to see suspension lines crossed over each other. Jumper #3 heard the suspension lines snapping one at a time. Jumper #2 was approximately 20 feet away from jumper #3 and slightly below him. Jumper #2's suspension lines continued to snap, releasing the jumpers free from each other. Jumper #3 had 1 each broken suspension lines that he noticed, and he was not falling faster than fellow jumpers. He landed, did a good PLF, recovered his equipment with no injuries. Jumper #2, once free and noticed he was falling faster than fellow jumpers. He activated his reserve with no success. The main canopy was stealing the air, so jumper #2 activated both canopy release assemblies freeing his canopy from the harness. Jumper #2s reserve deployed. He landed safely with no injuries.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

Not proper spacing interval between jumpers. High altitude entanglement.

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ANALYSIS: **19**

WHAT WAS THE MALFUNCTION?

High altitude entanglement.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. Jumpers not paying attention to fellow jumpers in the air.
2. Not maintaining a 50-foot separation between the jumpers.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Place more emphasis on sustained airborne training.

CARGO MALFUNCTION REPORTS AND ANSLYSIS

I. GENERAL

1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT	5. ACFT SER NO.
			C-130E	

6. OPERATION/EXERCISE	7. DZ AND LOCATION	8. DATE AND TIME

9. ACFT ALTITUDE (Feet)	10. ACFT SPEED (Knots)	11. DZ ELEVATION (Feet)	12. SURFACE WINDS (Knots)	13. VISIBILITY (Feet/Miles)
800 AGL	140	372	130/8	Unlimited

III. CARGO

23. TYPE LOAD AND WEIGHT	24. RIGGED IAW (TM/TO/NAVAIR No.)	25. AERIAL DELIVERY SYSTEM USED			
2600 Railroad Ties	FM 10-512/ TO 13C7-1-8 Chapter 11	X DUAL RAIL	. CDS RELEASE GATE	OTHER (Explain)	
		NO. PLATFORMS: 1	NO. CONTAINERS		

26. TYPE PLATFORM/AIR-DROP CONTAINER	27. TYPE PARACHUTE AND NUMBER	28. SIZE EXTRACTION/RE-LEASE PARACHUTE	29. LENGTH OF REEFING LINE	30. POSITION OF LOAD IN AIRCRAFT
Type V	2/G12E	15-Foot		FS 360

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

During extraction, the platform sheared off the left number 9 lock and severely damaged the number 10 and 11 locks.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

The last section of the draw bar on the left hand locks was disconnected allowing the last three locks to re-engage after slowdown. After reassembling the draw bar, we found the sleeve to be extremely loose and suspect it was not fully connected and vibrated loose in flight.

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ANALYSIS: 20

WHAT WAS THE MALFUNCTION?

This was not a malfunction of the load or equipment. However the loadmasters need to ensure they look and inspect the load or equipment prior to flight.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

The last section of the draw bar on the left hand locks was disconnected.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

1. Inspect prior to flight.
2. Ensure procedures in TOs are followed.

I. GENERAL				
1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT	5. ACFT SER NO.
			C-130H	
6. OPERATION/EXERCISE	7. DZ AND LOCATION	8. DATE AND TIME		
9. ACFT ALTITUDE *(Feet)*	10. ACFT SPEED *(Knots)*	11. DZ ELEVATION *(Feet)*	12. SURFACE WINDS *(Knots)*	13. VISIBILITY *(Feet/Miles)*
1010 AGL	140 Knots	102 5	6-15 Knots	5 Miles +

III. CARGO				
23. TYPE LOAD AND WEIGHT	24. RIGGED IAW *(TM/TO/NAVAIR No.)*	25. AERIAL DELIVERY SYSTEM USED		
		X DUAL RAIL	CDS RELEASE GATE	OTHER *(Explain)*
HVY 3350	FM 10-512/ TO 13C7-1-8	NO. PLATFORMS 1	NO. CONTAINERS	
26. TYPE PLATFORM/AIR-DROP CONTAINER	27. TYPE PARACHUTE AND NUMBER	28. SIZE EXTRACTION/RE-LEASE PARACHUTE	29. LENGTH OF REEFING LINE	30. POSITION OF LOAD IN AIRCRAFT
TYPE V	2/G12E	15 Foot		Sta 617

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

INCIDENT: Load landed 750 yards short of PI.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

Local malfunction review board was held. The findings of the board are as follows: Navigator only used 50 percent of altitude wind. The anemometer possibly needs calibrated or replaced. Surface winds dramatically different at time of drop than the winds at the 2 minute winds in the blind transmission. No update was transmitted. Damage to load was minimal.

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ANALYSIS: 21

WHAT WAS THE MALFUNCTION?

The load landed 750 yards short of PI.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

Improper calibrations on equipment.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Make sure all equipment is properly calibrated.

I. GENERAL				
1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT C-141B	5. ACFT SER NO.
6. OPERATION/EXERCISE	7. DZ AND LOCATION		8. DATE AND TIME	
9. ACFT ALTITUDE *(Feet)* 600 AGL	10. ACFT SPEED *(Knots)* 150	11. DZ ELEVATION *(Feet)* 1190	12. SURFACE WINDS *(Knots)* Calm	13. VISIBILITY *(Feet/Miles)* Unlimited

III. CARGO				
23. TYPE LOAD AND WEIGHT	24. RIGGED IAW *(TM/TO/NAVAIR No.)*	25. AERIAL DELIVERY SYSTEM USED		
		X DUAL RAIL	CDS RELEASE GATE	OTHER *(Explain)*
Type V/8 Foot Trng/3260 Lbs	FM 10-512/ TO 13C7-1-8	NO. PLATFORMS 1	NO. CONTAINERS N/A	N/A
26. TYPE PLATFORM/AIR-DROP CONTAINER	27. TYPE PARACHUTE AND NUMBER	28. SIZE EXTRACTION/RE-LEASE PARACHUTE	29. LENGTH OF REEFING LINE	30. POSITION OF LOAD IN AIRCRAFT
Type V	G-12E (x2)	15 Foot		CG Sta 980

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

Platform did not exit. As the platform was being restrained, it was noticed that lock #16 left was engaged in the platform. While the loadmasters were tightening the emergency aft restraint, the extraction line snapped and separated from the aircraft. One loadmaster then locked the remaining left locks on the platform and proceeded to the rear of the aircraft with the other loadmaster to aid in the post drop checklist, while another loadmaster went to the front of the aircraft to notify the pilot of completion of the malfunction checklist. After completion of the post drop checklist, the loadmaster engaged locks 17 and 18 right, dialed out for maximum aft restraint and locked the pull tabs respectively for our recovery. No other ADS components were manipulated by the aircrew. A representative met the aircraft and advised loadmasters, maintenance and configurations personnel to leave the aircraft as is until the tactics loadmaster could investigate.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

Lock no 16 left engaged rail face and platform after completion of the slow down checklist.

CONTINUED ON NEXT PAGE

ANALYSIS: 22

WHAT WAS THE MALFUNCTION?

Platform did not exit.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

Aircrew error.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Ensure proper checklist procedures are followed.

I. GENERAL

1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT	5. ACFT SER NO.
			C-130E	

6. OPERATION/EXERCISE	7. DZ AND LOCATION	8. DATE AND TIME

9. ACFT ALTITUDE (Feet)	10. ACFT SPEED (Knots)	11. DZ ELEVATION (Feet)	12. SURFACE WINDS (Knots)	13. VISIBILITY (Feet/Miles)
650 AGL	140	372	Calm	Unlimited

III. CARGO

23. TYPE LOAD AND WEIGHT	24. RIGGED IAW (TM/TO/NAVAIR No.)	25. AERIAL DELIVERY SYSTEM USED			
		X DUAL RAIL	. CDS RELEASE GATE	OTHER (Explain)	
HE Mass Load 2670	FM 10-512/ TO 13C7-1-8 Chapter 11	NO. PLATFORMS 1	NO. CONTAINERS		

26. TYPE PLATFORM/AIR-DROP CONTAINER	27. TYPE PARACHUTE AND NUMBER	28. SIZE EXTRACTION/RE-LEASE PARACHUTE	29. LENGTH OF REEFING LINE	30. POSITION OF LOAD IN AIRCRAFT
HE	G-12E/2	15-Foot	NA	FS 550

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

At green light, the extraction parachute released properly from the aircraft. The parachute came out of the bag but failed to inflate. The load exited the aircraft and transferred to the recovery parachute phase but only one G-12 fully inflated. There was no damage to the aircraft, personnel, or other equipment.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

An investigation revealed the following: The student pulled the right hand crossover to emergency, releasing the platform. The extraction parachute suspension lines were not properly packed and stowed (five retainer bands were missing). We think there was not enough transfer force to fully deploy one of the G-12s.

CONTINUED ON NEXT PAGE

ANALYSIS: 23

WHAT WAS THE MALFUNCTION?

15-foot extraction parachute failed to inflate.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. Improper packing procedures.
2. Pulled right hand crossover too soon (student).

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Ensure proper packing procedures are followed.

I. GENERAL

1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT	5. ACFT SER NO.
			C-130H	

6. OPERATION/EXERCISE	7. DZ AND LOCATION	8. DATE AND TIME

9. ACFT ALTITUDE (*Feet*)	10. ACFT SPEED (*Knots*)	11. DZ ELEVATION (*Feet*)	12. SURFACE WINDS (*Knots*)	13. VISIBILITY (*Feet/Miles*)
650 AGL	140 KIAS	190 Feet	160/10	10 SM

III. CARGO

23. TYPE LOAD AND WEIGHT	24. RIGGED IAW (*TM/TO/NAVAIR No.*)	25. AERIAL DELIVERY SYSTEM USED			
		X DUAL RAIL	. CDS RELEASE GATE	OTHER (*Explain*)	
Heavy Equipment 3200 LBS	TM 10-1670-278-23&P/ TO 13C5-26-2	NO. PLATFORMS	NO. CONTAINERS		
		1	N/A	N/A	

26. TYPE PLATFORM/AIR-DROP CONTAINER	27. TYPE PARACHUTE AND NUMBER	28. SIZE EXTRACTION/RE-LEASE PARACHUTE	29. LENGTH OF REEFING LINE	30. POSITION OF LOAD IN AIRCRAFT
TYPE V/ 8-Foot	2-G12E	15 Foot	N/A	FS 520

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

Upon navigator's green light call and subsequent activation of the ADS switch, the extraction parachute dropped normally from the bomb rack and exited the aircraft. The retainer bag successfully separated from the extraction parachute and the parachute deployed. The second loadmaster noted that the parachute appeared to take slightly longer than normal to deploy out of the bag. Subsequently, both aircraft loadmasters noted what appeared to be a line-over condition whereby the extraction canopy was divided into two different sections but not inflated to the full 100 percent position. This line-over condition was also observed by the instructor navigator on board the subject aircraft as well as by the aircraft commander in the trailing aircraft. The extraction line appeared to be tight with very little flailing of the line. The right hand lock failed to release and the load remained locked in the aircraft. Within 3 to 4 seconds of the initial extraction parachute deployment, the second loadmaster directed the primary loadmaster to activate the right hand control handle to the emergency position for manual release of the restraining lock. The load then exited the aircraft at a slightly slower rate than normal extraction. Upon load exit from aircraft, the main parachutes appeared to deploy normally. The load impacted on the drop zone. Negative damage to equipment or personnel.

CONTINUED ON NEXT PAGE

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

The unit's malfunction review panel determined the cause of this malfunction as the line-over condition of the extraction parachute resulting in a less than fully inflated parachute that lacked the sufficient force to overcome the right hand rail lock. The panel concluded that the malfunction was not due to any rigging discrepancy.

ANALYSIS: 24

WHAT WAS THE MALFUNCTION?

1. Loadmasters less 100 percent canopy.
2. Possible line over.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. Possible improper packing procedures for the extraction parachute.
2. Dual rail locks malfunctioned.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Ensure proper packing procedures are followed.

I. GENERAL				
1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT	5. ACFT SER NO.
			C-17	
6. OPERATION/EXERCISE	7. DZ AND LOCATION	8. DATE AND TIME		
9. ACFT ALTITUDE (Feet)	10. ACFT SPEED (Knots)	11. DZ ELEVATION (Feet)	12. SURFACE WINDS (Knots)	13. VISIBILITY (Feet/Miles)
798 AGL	145 KCAS	1505	08 Gust 16 020	5 Miles

III. CARGO				
23. TYPE LOAD AND WEIGHT	24. RIGGED IAW (TM/TO/NAVAIR No.)	25. AERIAL DELIVERY SYSTEM USED		
		X DUAL RAIL	CDS RELEASE GATE	OTHER (Explain)
Mass Supply 3225 LBS	FM 10-512/ TO 13C7-1-8 Chapter 11	NO. PLATFORMS: 1	NO. CONTAINERS	
26. TYPE PLATFORM/AIR-DROP CONTAINER	27. TYPE PARACHUTE AND NUMBER	28. SIZE EXTRACTION/RELEASE PARACHUTE	29. LENGTH OF REEFING LINE	30. POSITION OF LOAD IN AIRCRAFT
Type V	(2) G-12E	15-Foot	N/A	1 of 2

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

The load exited normally. The mishap parachute extended out of the bag and elongated, but never opened. The mishap parachute fell below the platform and the load descended under one fully inflated parachute. The load landed after the mishap parachute touched the ground. no damage was found to the platform

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

The following damage was discovered: suspension line stowage, stowage loop flaps, and the locking stow flap separated from the deployment bag. The connector link tie (1/4-inch cotton webbing) and all suspension line ties (ticket 3) were present and secured except one, 5 feet from the bottom of the canopy skirt. The material at the base of the locking stow loops was crimped. Suspected cause: parachute suspension lines failed to deploy normally from the locking stow loops and pulled the loops partially through the slots on the locking stow flap which forced the separation of the suspension line stowage, stowage loop, and locking stows flaps at the seam of the deployment bag. This failure hampered parachute opening.

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ANALYSIS: 25

WHAT WAS THE MALFUNCTION?

G-12 main cargo parachute (right side) failed to deploy on extraction and properly inflate.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. Possible improper modifications.
2. Posssible stowage pulled too far in suspension line loop.
3. Air starvation of cargo parachute under platform.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

1. Reinspect deployment bag modification to packing manuals.
2. Implement new G-12 deployment bag.

I. GENERAL

1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT	5. ACFT SER NO.
			C-130	

6. OPERATION/EXERCISE	7. DZ AND LOCATION	8. DATE AND TIME

9. ACFT ALTITUDE (Feet)	10. ACFT SPEED (Knots)	11. DZ ELEVATION (Feet)	12. SURFACE WINDS (Knots)	13. VISIBILITY (Feet/Miles)
1215 MSL 650 AGL	140 KIAS	372	200/05	7 +

III. CARGO

23. TYPE LOAD AND WEIGHT	24. RIGGED IAW (TM/TO/NAVAIR No.)	25. AERIAL DELIVERY SYSTEM USED			
		X DUAL RAIL	. CDS RELEASE GATE	OTHER (Explain)	
Heavy Equipment 2650	FM 10-512/ TO 13C7-1-8 Chapter 11	NO. PLATFORMS 1	NO. CONTAINERS		

26. TYPE PLATFORM/AIR-DROP CONTAINER	27. TYPE PARACHUTE AND NUMBER	28. SIZE EXTRACTION/RELEASE PARACHUTE	29. LENGTH OF REEFING LINE	30. POSITION OF LOAD IN AIRCRAFT
Type V	G-12E/2	15-Foot	N/A	FS 630

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

The malfunction occurred on a day Formal Training Unit (FTU) local mission dropping a HE weighing 2650. At green light, the extraction parachute released and extracted platform deploying both G-12Es. Only one fully opened. The other one did not fully open nor did it break the 3-cord tie approximately 10 feet from the bottom of the skirt.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

When the first G-12E opened, it air starved the second parachute.

CONTINUED ON NEXT PAGE

ANALYSIS: 26

WHAT WAS THE MALFUNCTION?

The canopy on the G-12 failed to inflate upon deployment.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

Air starvation of cargo parachute.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

1. Not enough information.
2. Possible reoccurrence.
3. Need more information on 1748-2 reports.

I. GENERAL

1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT	5. ACFT SER NO.
			C-141B	

6. OPERATION/EXERCISE	7. DZ AND LOCATION	8. DATE AND TIME

9. ACFT ALTITUDE (Feet)	10. ACFT SPEED (Knots)	11. DZ ELEVATION (Feet)	12. SURFACE WINDS (Knots)	13. VISIBILITY (Feet/Miles)
1215 AGL	150 KIAS	1175	UNK	7 MILES

III. CARGO

23. TYPE LOAD AND WEIGHT	24. RIGGED IAW (TM/TO/NAVAIR No.)	25. AERIAL DELIVERY SYSTEM USED			
		X DUAL RAIL	. CDS RELEASE GATE	OTHER (Explain)	
MASS SUPPLY 3280	FM 10-512/ TO 13C7-1-8 Chapter 11	NO. PLATFORMS 3	NO. CONTAINERS		

26. TYPE PLATFORM/AIR-DROP CONTAINER	27. TYPE PARACHUTE AND NUMBER	28. SIZE EXTRACTION/RE-LEASE PARACHUTE	29. LENGTH OF REEFING LINE	30. POSITION OF LOAD IN AIRCRAFT
TYPE V	G-12E(2)	15-Foot		#1

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

When the extraction line fully elongated and snapped tight, the platform flipped vertically with the extraction end up. The main parachutes failed to deploy. The three-point link was not released until impact with the ground. The load bounced and flipped upside down. Extensive damage was done to the platform. The EFTC cable was bent 90 degrees at the latch assembly and 30 degrees at the actuator. The front of the platform contacted the ground first creating a 4-inch crease along the entire width of the platform. The platform was destroyed.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

Test on the ground revealed that the retainer hook failed to release the 3-point link when the actuator arm rotated. Excessive force was necessary to remove the 3-point link from the latch. The 3-point link nuts were not overtightened on the latch.

CONTINUED ON NEXT PAGE

ANALYSIS: 27

WHAT WAS THE MALFUNCTION?

The extraction failed to transfer to the depoyment phase for proper recovery.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. Bad latch.
2. Possible kink in cable prior to ground impact.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

1. Follow test parameters of EFTC before inspection.
2. Possible latch corrosion.

I. GENERAL				
1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT	5. ACFT SER NO.
			C130	
6. OPERATION/EXERCISE	7. DZ AND LOCATION		8. DATE AND TIME	
9. ACFT ALTITUDE (Feet)	10. ACFT SPEED (Knots)	11. DZ ELEVATION (Feet)	12. SURFACE WINDS (Knots)	13. VISIBILITY (Feet/Miles)
1100 AGL	150		3 Knots	1 Mile

III. CARGO				
23. TYPE LOAD AND WEIGHT	24. RIGGED IAW (TM/TO/NAVAIR No.)	25. AERIAL DELIVERY SYSTEM USED		
		X DUAL RAIL	CDS RELEASE GATE	OTHER (Explain)
1 x Avenger 12,500	FM 10-550/ TO 13C7-22-71	NO. PLATFORMS: 1	NO. CONTAINERS:	
26. TYPE PLATFORM/AIR-DROP CONTAINER	27. TYPE PARACHUTE AND NUMBER	28. SIZE EXTRACTION/RELEASE PARACHUTE	29. LENGTH OF REEFING LINE	30. POSITION OF LOAD IN AIRCRAFT
Type V/28	3 x G-11B	22-Foot Extraction Parachute		1 of 1

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

Extraction parachute deployed as normal and load exited aircraft. As the cargo parachutes deployed, one canopy broke away from the load. The second canopy did not fully inflate. The third canopy inflated and received the full opening shock. The load descended under one canopy and impacted with the ground. The load was destroyed.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

During the deployment phase, one riser extension was caught under the ladder on the load. Thiscaused one ply to cut. As the riser extension continued to deploy with one ply cut, pressure was placed on the riser extensions. The second ply broke, causing the cargo parachute to break free. The second canopy failed to inflate due to a broken riser extension wrapping around the second canoy and causing it not to deploy. The ladder on the Avenger was found approximately 20 feet from the load. The riser extensions were inspected and the first break was at the ladder as expected. To prevent, we will pad the ladder with felt and put honeycomb.

CONTINUED ON NEXT PAGE

ANALYSIS: 28

WHAT WAS THE MALFUNCTION?

1. Severance of riser extension of one cargo main parachute. Descent under one of three. This riser wrapped around the second cargo parachute.
2. Two canopies failed to inflate.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

After market addition of ladder and aft cargo.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

1. Raise the pack tray changing rigging procedures of felt etc.
2. Notify test boards about after market additions to any airdrop items.

I. GENERAL				
1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT C-17A	5. ACFT SER NO.
6. OPERATION/EXERCISE	7. DZ AND LOCATION		8. DATE AND TIME	
9. ACFT ALTITUDE *(Feet)* 1,100 AGL	10. ACFT SPEED *(Knots)* 145	11. DZ ELEVATION *(Feet)* 851	12. SURFACE WINDS *(Knots)* 6	13. VISIBILITY *(Feet/Miles)* 5 Miles

III. CARGO				
23. TYPE LOAD AND WEIGHT Heavy Equipment Training 3190 Lbs	24. RIGGED IAW *(TM/TO/NAVAIR No.)* FM 10-512/ TO 13C7-1-8 Chapter 11	25. AERIAL DELIVERY SYSTEM USED X DUAL RAIL / CDS RELEASE GATE / OTHER *(Explain)* NO. PLATFORMS: 1 / NO. CONTAINERS:		
26. TYPE PLATFORM/AIR-DROP CONTAINER Type V	27. TYPE PARACHUTE AND NUMBER 2/G-12E	28. SIZE EXTRACTION/RELEASE PARACHUTE 15-Foot Drogue 15-Foot Extraction	29. LENGTH OF REEFING LINE N/A	30. POSITION OF LOAD IN AIRCRAFT FS 1074

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

At the release point checklist, the drogue parachute deployed. At green light, the extraction package was pulled from the aircraft, the extraction line elongated, but the extraction parachute did not deploy. The loadmaster seen that the ADS lock status panel still showed the platform did not release and pressed the ADS Lock Gang Control R Locks (release switch), the status panel showed the A's blinking but the platform did not exit. The loadmaster pressed the ADS Lock Gang Control L Locks (lock switch) and the indicators on the Lock Status Panel were blinking and showing an unlocked indication. He then activated the ADS Gang Lock Backup Lock Switch when the platform, at the same time, moved aft about 80 inches. The platform came to rest on the cargo ramp at FS 1275. The extraction line was cut free using the Fulton Pole Knife. The aircraft had a ADS vertical restraint lip damage on the left side at FS 1239. No other visible damage was noted.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

The 15-foot extraction parachute failed to deploy. The drogue parachute, line, and SELB were recovered without the extraction parachute bag attached. The extraction parachute, parachute bag, and line have not been recovered. Without the recovery of the rest of the extraction system, it seems that the SELB extraction bridle connector links were not connected to the bridle straps on the extraction parachute bag. The apex break cord tie broke and the extraction parachute never had a chance to deploy. Without the proper extraction force applied to the EFTC, the platform was held in place by the right hand locks. The loadmaster possibly did not give ample time for the ADS right locks to retract after he commanded them to do so. After he commanded them to retract, he commanded them to lock. In this time frame the platform did not have any restraint and there was an unknown amount of force being applied to the EFTC causing the platform to move to the cargo ramp area. While moving aft, the lcoks came in contact with the platform and stopped the platform.

CONTINUED ON NEXT PAGE

ANALYSIS: 29

WHAT WAS THE MALFUNCTION?

1. Extraction parachute failed to deploy the proper drogue parachute.
2. The locks failed to jettison override in proper sequence.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. Extraction parachute failed to deploy.
2. Bag closing ties were incorrectly rigged.
3. Miniature cutters lanyard may be too long.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

1. Tow test inflight on C-17A airdrop system for heavy equipment.
2. Ensure proper rigging procedures are followed on extraction parachutes.

I. GENERAL				
1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT	5. ACFT SER NO.
			C-141-B	
6. OPERATION/EXERCISE	7. DZ AND LOCATION	8. DATE AND TIME		
9. ACFT ALTITUDE (Feet)	10. ACFT SPEED (Knots)	11. DZ ELEVATION (Feet)	12. SURFACE WINDS (Knots)	13. VISIBILITY (Feet/Miles)
927	150	245	070/11	Clear

III. CARGO				
23. TYPE LOAD AND WEIGHT	24. RIGGED IAW (TM/TO/NAVAIR No.)	25. AERIAL DELIVERY SYSTEM USED		
		X DUAL RAIL	CDS RELEASE GATE	OTHER (Explain)
8 Foot/2770	FM 10-512/ TO 13C7-1-8	NO. PLATFORMS	NO. CONTAINERS	
26. TYPE PLATFORM/AIR-DROP CONTAINER	27. TYPE PARACHUTE AND NUMBER	28. SIZE EXTRACTION/RE-LEASE PARACHUTE	29. LENGTH OF REEFING LINE	30. POSITION OF LOAD IN AIRCRAFT
Type V	2/G-12E	15-Foot	N/A	FS 1080

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

At green light, extraction parachute failed to extract platform. Secondary loadmaster pulled right rail release handle twice in an attempt to extract the platform. Still the platform did not extract. It remained hung for about 2 seconds into the malfunction checklist before it exited the aircraft. Metal shavings from the platform was found on the aircraft floor after exit. No damage to aircraft or crew.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

Lock number 18 was engaged in the platform during this malfunction. Lock number 18 was calibrated by maintenance personnel and right locks pre-flighted to re-create inflight procedures. Findings: Lock number 18 right was calibrated properly IAW TO 16W15-2-2, para. 4-12. During pre-flight of right rail locks, lock 18 released three times properly. Finding from review board: The primary loadmaster stated he saw extraction parachute veer off to the right side of the aircraft then return back to the center before extracting the load. After inspecting the 8-foot platform, the forward right side where the shaving were found and the rear left side had some damage to it. This supports the theory that the platform cocked in the rails prior to extraction. The extraction parachute had no damage to it.

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ANALYSIS: 30

WHAT WAS THE MALFUNCTION?

Lock #18 failed to release platform.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

Dual rail lock malfunction or platform cocked in dual rails.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

1. Follow proper preflight and loading instructions
2. Perform better maintenance on dual rails.

I. GENERAL				
1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT	5. ACFT SER NO.
			C-141	
6. OPERATION/EXERCISE	7. DZ AND LOCATION		8. DATE AND TIME	

9. ACFT ALTITUDE (Feet)	10. ACFT SPEED (Knots)	11. DZ ELEVATION (Feet)	12. SURFACE WINDS (Knots)	13. VISIBILITY (Feet/Miles)
800 AGL	150 KCAS	1530	110m/06	Unrestricted

III. CARGO				
23. TYPE LOAD AND WEIGHT	24. RIGGED IAW (TM/TO/NAVAIR No.)	25. AERIAL DELIVERY SYSTEM USED		
Mass Supply 3275 LBS	FM 10-512/ TO 13C7-1-8 Chapter 11	X DUAL RAIL / CDS RELEASE GATE / OTHER (Explain) NO. PLATFORMS: 1 NO. CONTAINERS:		

26. TYPE PLATFORM/AIR-DROP CONTAINER	27. TYPE PARACHUTE AND NUMBER	28. SIZE EXTRACTION/RE-LEASE PARACHUTE	29. LENGTH OF REEFING LINE	30. POSITION OF LOAD IN AIRCRAFT
Type V	G-12E (2)	15-Foot	N/A	1 of 2

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

As reported by the Malfunction NCO and Drop Zone Control Officer, the load exited the aircraft normally. The mishap parachute initially attempted to open, but only achieved partial inflation until approximately 50 feet AGL. The load descended under one fully inflated parachute and no damage was found to the platform.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

The mishap parachute and deployment bag were inspected by the on-scene Malfunction NCO and a more detailed inspection was conducted at Aerial Delivery. The following damage was discovered: suspension line stowage and stowage loop flaps separated from the deployment bag (found inside the unaffected parachute), the locking stow flap also separated, but was not recovered, and four suspension lines on the parachute were burned approximately 3 feet below the canopy skirt. Suspected cause: parachute suspension lines failed to deploy from the locking stow loops, which forced the separation of the suspension line stowage, stowage loop, and locking stow flaps at the seam of the deployment bag. This failure delayed parachute opening.

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ANALYSIS: 31

WHAT WAS THE MALFUNCTION?

1. The main cargo parachute failed to deploy and inflate properly.
2. The load suspended under one cargo parachute.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. Possible improper modification to suspension stowage loop.
2. Stowage suspension line pulled too far through loop.
3. Air starvation.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

1. Re-inspect deployment bag modification.
2. Implement usage of new G-12 deployment bag.

I. GENERAL				
1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT	5. ACFT SER NO.
			C-141B	
6. OPERATION/EXERCISE	7. DZ AND LOCATION		8. DATE AND TIME	
9. ACFT ALTITUDE *(Feet)*	10. ACFT SPEED *(Knots)*	11. DZ ELEVATION *(Feet)*	12. SURFACE WINDS *(Knots)*	13. VISIBILITY *(Feet/Miles)*
800 AGL	150 KCAS	1530	160m/04	5 Miles

III. CARGO				
23. TYPE LOAD AND WEIGHT	24. RIGGED IAW *(TM/TO/NAVAIR No.)*	25. AERIAL DELIVERY SYSTEM USED		
		X DUAL RAIL	CDS RELEASE GATE	OTHER *(Explain)*
Mass Supply 3045 Lbs	FM 10-512/ TO 13C7-1-8 Chapter 11	NO. PLATFORMS 1	NO. CONTAINERS	
26. TYPE PLATFORM/AIR-DROP CONTAINER	27. TYPE PARACHUTE AND NUMBER	28. SIZE EXTRACTION/RE-LEASE PARACHUTE	29. LENGTH OF REEFING LINE	30. POSITION OF LOAD IN AIRCRAFT
Type V	G-12E (2)	15-Foot	N/A	2 of 2

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

As reported by the Malfunction NCO, the first platform of a sequential exited normally and elongated the second platform's extraction line. When the extraction line became taut, it separated from the extraction parachute. The extraction parachute did not deploy, and the extraction line and platform remained in the aircraft.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

The mishap extraction parachute and platform were inspected by the on-scene malfunction NCO, and a more detailed inspection was conducted at Aerial Delivery. The followoing was discovered: approximately 14.5 feet of the extraction parachute suspension lines deployed, breakcord and stabilization ties were still intact, type IV connector link missing, and a 1.5 inch X 1.75 inch hole on the forward end of the platform approximately 7.75 inches from centerline. The type IV side link plate was recovered on the drop zone and damaged on the edges and bent upwards. Suspected cause: type IV connector link impacted platform during deployment and disengaged the side link plate.

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ANALYSIS: 32

WHAT WAS THE MALFUNCTION?

1. Failure to extract sequential load.
2. Deployment parachute failed to deploy.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. Not seated properly.
2. Improper attachment to load - wrong direction.
3. Not assembled properly.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

1. Re-emphasize proper rigging procedures.
2. Re-emphasize proper inspection procedures.

I. GENERAL				
1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT	5. ACFT SER NO.
			C130E	
6. OPERATION/EXERCISE	7. DZ AND LOCATION	8. DATE AND TIME		
9. ACFT ALTITUDE *(Feet)*	10. ACFT SPEED *(Knots)*	11. DZ ELEVATION *(Feet)*	12. SURFACE WINDS *(Knots)*	13. VISIBILITY *(Feet/Miles)*
1100 AGL	140 IAS	5140	03	10 + Miles

III. CARGO				
23. TYPE LOAD AND WEIGHT	24. RIGGED IAW *(TM/TO/NAVAIR No.)*	25. AERIAL DELIVERY SYSTEM USED		
HE 2860	FM 10-500-2/ TO 13C7-1-5 and FM 10-512/ TO 13C7-1-8	X DUAL RAIL	CDS RELEASE GATE	OTHER *(Explain)*
		NO. PLATFORMS: 1	NO. CONTAINERS	
26. TYPE PLATFORM/AIR-DROP CONTAINER	27. TYPE PARACHUTE AND NUMBER	28. SIZE EXTRACTION/RELEASE PARACHUTE	29. LENGTH OF REEFING LINE	30. POSITION OF LOAD IN AIRCRAFT
8-Foot Type V	2 G-12E	15-Foot		FS 517

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

EFTC cable broke in actuator 1 inch from the end, stopping the transfer from extraction phase to deployment phase. Link assembly released upon impact with ground.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

Failure of 12-foot EFTC cable. This was the second drop of that cable.

CONTINUED ON NEXT PAGE

ANALYSIS: 33

WHAT WAS THE MALFUNCTION?

The actuator cable broke upon extraction stopping deployment actions.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. The cable was weak and broke free from crimped swedge.
2. Improper cam locking.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

1. Not enough information.
2. Not properly detailed.
3. Cross reference to messages about cable May 96 “Star button”.

I. GENERAL				
1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT	5. ACFT SER NO.
			C-141	
6. OPERATION/EXERCISE	7. DZ AND LOCATION	8. DATE AND TIME		
9. ACFT ALTITUDE (Feet)	10. ACFT SPEED (Knots)	11. DZ ELEVATION (Feet)	12. SURFACE WINDS (Knots)	13. VISIBILITY (Feet/Miles)
800 Feet AGL	130 Knots		02 Knots	8 Miles

III. CARGO				
23. TYPE LOAD AND WEIGHT	24. RIGGED IAW (TM/TO/NAVAIR No.)	25. AERIAL DELIVERY SYSTEM USED		
Gun and HMWWV 20,200 LBS	FM 10-519/ TO 13C7-10-31	X DUAL RAIL / CDS RELEASE GATE / OTHER (Explain)		
		NO. PLATFORMS: 1	NO. CONTAINERS: N/A	N/A
26. TYPE PLATFORM/AIR-DROP CONTAINER	27. TYPE PARACHUTE AND NUMBER	28. SIZE EXTRACTION/RELEASE PARACHUTE	29. LENGTH OF REEFING LINE	30. POSITION OF LOAD IN AIRCRAFT
32 Foot Type V	4 X G-11B	28 Foot	N/A	1 of 1

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

The load extracted from the aircraft normally and entered into the recovery phase. One parachute did not deploy. Two canopies fully inflated. The last parachute had partial lift capabilities.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

After looking it over, one parachute's cutter did not fire due to improper tie. One parachute took the weight of the load and it broke several suspension lines. The load was not damaged and the fire mission continued and was successful.

CONTINUED ON NEXT PAGE

ANALYSIS: 34

WHAT WAS THE MALFUNCTION?

One canopy failed to inflate.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. Improper packing procedures.
2. Improper tie on cutter bracket.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Ensure proper procedures are followed.

I. GENERAL				
1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT	5. ACFT SER NO.
			C-5	
6. OPERATION/EXERCISE	7. DZ AND LOCATION		8. DATE AND TIME	
9. ACFT ALTITUDE *(Feet)*	10. ACFT SPEED *(Knots)*	11. DZ ELEVATION *(Feet)*	12. SURFACE WINDS *(Knots)*	13. VISIBILITY *(Feet/Miles)*
1150 Feet AGL	150 Knots	387 Feet MSL	3 Knots	Unrestricted

III. CARGO				
23. TYPE LOAD AND WEIGHT	24. RIGGED IAW *(TM/TO/NAVAIR No.)*	25. AERIAL DELIVERY SYSTEM USED		
		X DUAL RAIL	CDS RELEASE GATE	OTHER *(Explain)*
M101T-Trailer 5,430 LBS	FM 10-532/ TO 13C7-3-361	NO. PLATFORMS: 2	NO. CONTAINERS: N/A	
26. TYPE PLATFORM/AIR-DROP CONTAINER	27. TYPE PARACHUTE AND NUMBER	28. SIZE EXTRACTION/RE-LEASE PARACHUTE	29. LENGTH OF REEFING LINE	30. POSITION OF LOAD IN AIRCRAFT
12-Foot Type V	2 X G-11B	15-Foot	N/A	1 of 2

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

The platform extracted normally. The extraction force failed to transfer to deployment phase, and parachutes were still attached to the load at the time of impact. The extraction parachute caused the platform to hit perpendicular to the ground, rolling over onto the load and totally destroying the trailer.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

Inspection of the EFTC confirmed that it had been properly assembled with all required components. The actuator arm safety pin had been removed and stowed, and the actuator arm had rotated upon exiting the aircraft. The cable had been damaged on impact, but still moved freely within the sleeve. After reinstalling the 3-point link, it would not release from the latch when pulled straight out, and would only release when jerked to the left. We repeated this test three times, each with the same result. I concluded that the 3-point link had become jammed in the latch, causing the load to fail to enter the deployment phase.

CONTINUED ON NEXT PAGE

ANALYSIS: 35

WHAT WAS THE MALFUNCTION?

The extraction force failed to travel on deployment phase. EFTC failure to transfer forces.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

Corrosion, dirt, foreign materials, etc interferred with the proper operation of the latch assembly.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

1. Improve field maintenance to include cleaning and interior inspection of EFTC latch assembly.
2. Possibly use compressed air/air compressor to blow out the latch assembly.

I. GENERAL				
1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT	5. ACFT SER NO.
			C-130	
6. OPERATION/EXERCISE	7. DZ AND LOCATION		8. DATE AND TIME	
9. ACFT ALTITUDE (Feet)	10. ACFT SPEED (Knots)	11. DZ ELEVATION (Feet)	12. SURFACE WINDS (Knots)	13. VISIBILITY (Feet/Miles)
800 Feet	120 Knots	328 Feet	10 Knots	Cloudy Limited

III. CARGO				
23. TYPE LOAD AND WEIGHT	24. RIGGED IAW (TM/TO/NAVAIR No.)	25. AERIAL DELIVERY SYSTEM USED		
		DUAL RAIL:	X CDS RELEASE GATE	OTHER (Explain)
1 X A22 1170 LBS	FM 10-500-3/ TO 13C7-1-11	NO. PLATFORMS	NO. CONTAINERS 8	
26. TYPE PLATFORM/AIR-DROP CONTAINER	27. TYPE PARACHUTE AND NUMBER	28. SIZE EXTRACTION/RELEASE PARACHUTE	29. LENGTH OF REEFING LINE	30. POSITION OF LOAD IN AIRCRAFT
A-22	1 X G12 E	68-Inch Pilot		

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

Load exited the aircraft with no recovery parachute inflation and was destroyed on impact.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

Preliminary investigation shows the Type VIII connector strap on the 68-inch pilot parachute failed where it was connected to the G-12E. No damage to connector link.

CONTINUED ON NEXT PAGE

ANALYSIS: 36

WHAT WAS THE MALFUNCTION?

The recovery parachute failed to deploy.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. The connector strap was too old/worn.
2. Material failure.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

1. Perform better inspection procedures.
2. Better quality control of equipment used prior to rigging.

I. GENERAL				
1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT	5. ACFT SER NO.
			C-130E	
6. OPERATION/EXERCISE	7. DZ AND LOCATION		8. DATE AND TIME	
9. ACFT ALTITUDE (Feet)	10. ACFT SPEED (Knots)	11. DZ ELEVATION (Feet)	12. SURFACE WINDS (Knots)	13. VISIBILITY (Feet/Miles)
900 MSL/425 AGL	130 KIAS	1475	Calm	Unlimited

III. CARGO				
23. TYPE LOAD AND WEIGHT	24. RIGGED IAW (TM/TO/NAVAIR No.)	25. AERIAL DELIVERY SYSTEM USED		
		DUAL RAIL:	X CDS RELEASE GATE	OTHER (Explain)
CDS 1228 LBS	FM 10-500-3/ TO 13C7-1-11	NO. PLATFORMS	NO. CONTAINERS 1	
26. TYPE PLATFORM/AIR-DROP CONTAINER	27. TYPE PARACHUTE AND NUMBER	28. SIZE EXTRACTION/RELEASE PARACHUTE	29. LENGTH OF REEFING LINE	30. POSITION OF LOAD IN AIRCRAFT
A-22	1 G12-E	68-Inch Pilot Parachute	N/A	Gate 509 FS 490 Pulley 530

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

Gate failed to cut at green light. Static line retriever winch ran approximately 1.2 to 5 seconds and shut off, failing to break the 80 pound safety tie. (Right static line retriever winch)

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

Static line retiever winch shut off prematurely.

CONTINUED ON NEXT PAGE

ANALYSIS: 37

WHAT WAS THE MALFUNCTION?

CDS gate failed to cut.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

Static line retriever winch failed.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

1. Replace with a new winch.
2. Perform maintenance inspection IAW appropriate TO.

I. GENERAL

1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT	5. ACFT SER NO.
			C-141B	

6. OPERATION/EXERCISE	7. DZ AND LOCATION	8. DATE AND TIME

9. ACFT ALTITUDE (Feet)	10. ACFT SPEED (Knots)	11. DZ ELEVATION (Feet)	12. SURFACE WINDS (Knots)	13. VISIBILITY (Feet/Miles)
375 AGL	150	190	10	Unlimited

III. CARGO

23. TYPE LOAD AND WEIGHT	24. RIGGED IAW (TM/TO/NAVAIR No.)	25. AERIAL DELIVERY SYSTEM USED			
			DUAL RAIL	X CDS RELEASE GATE	OTHER (Explain)
CDS/1000 LBS	FM 10-500-3/ TO 13C7-1-11	NO. PLATFORMS: N/A		NO. CONTAINERS: 4	

26. TYPE PLATFORM/AIR-DROP CONTAINER	27. TYPE PARACHUTE AND NUMBER	28. SIZE EXTRACTION/RELEASE PARACHUTE	29. LENGTH OF REEFING LINE	30. POSITION OF LOAD IN AIRCRAFT
A22/ 48" x 48"	G-12E	N/A	N/A	FS 1260

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

The A22 container failed to move after the type XXVI nylon release gate was cut.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

There was no problem encountered during loading or downloading after the malfunction. The skidboard was measured at 48 inches x 48 1/2 inches after downloading. The board's opinion was the low level maneuvering jammed the outside skidboard up against the CVR and prevented aft movement.

CONTINUED ON NEXT PAGE

ANALYSIS: 38

WHAT WAS THE MALFUNCTION?

The bundle failed to move after the gate was cut.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

A larger than required skidboard jammed in the CVR because of aggressive low level maneuvers.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Ensure propers rigging procedures in TO are followed.

I. GENERAL				
1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT	5. ACFT SER NO.
			C-130	
6. OPERATION/EXERCISE	7. DZ AND LOCATION		8. DATE AND TIME	
9. ACFT ALTITUDE (Feet)	10. ACFT SPEED (Knots)	11. DZ ELEVATION (Feet)	12. SURFACE WINDS (Knots)	13. VISIBILITY (Feet/Miles)
4800	130 Knots	4100	7 Knots	CAVU

III. CARGO				
23. TYPE LOAD AND WEIGHT	24. RIGGED IAW (TM/TO/NAVAIR No.)	25. AERIAL DELIVERY SYSTEM USED		
		DUAL RAIL	X CDS RELEASE GATE	OTHER (Explain)
CDS 1000 LBS	FM 10-500-3/ TO 13C7-1-11	NO. PLATFORMS	NO. CONTAINERS 1	
26. TYPE PLATFORM/AIR-DROP CONTAINER	27. TYPE PARACHUTE AND NUMBER	28. SIZE EXTRACTION/RE-LEASE PARACHUTE	29. LENGTH OF REEFING LINE	30. POSITION OF LOAD IN AIRCRAFT
N/A	(1) G12	N/A	N/A	FS 580

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

Green light came on, right hand retriever winch came on but failed to cut gate. No damage incurred.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

Due to the angle of the retriever to the pulley location at FS 617, the retriever cut off when under a load condition. When not under a load condition, the retriever worked properly. As a result, both the beaded chains and the microswitch were replaced. Recommend non-use of the right hand retriever for CDs drops.

CONTINUED ON NEXT PAGE

ANALYSIS: 39

WHAT WAS THE MALFUNCTION?

The right hand winch failed to cut gate.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

Bad limit switch in winch.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

1. Check winch under load condition.
2. Perform proper maintenance inspection procedures.
3. Replace Western Gear static line retrievers with 141s winch or contract new winch.

I. GENERAL

1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT	5. ACFT SER NO.
			C-130E	

6. OPERATION/EXERCISE	7. DZ AND LOCATION	8. DATE AND TIME

9. ACFT ALTITUDE (Feet)	10. ACFT SPEED (Knots)	11. DZ ELEVATION (Feet)	12. SURFACE WINDS (Knots)	13. VISIBILITY (Feet/Miles)
500 Feet AGL	140 Knots	610 Feet	Calm	Unrestricted

III. CARGO

23. TYPE LOAD AND WEIGHT	24. RIGGED IAW (TM/TO/NAVAIR No.)	25. AERIAL DELIVERY SYSTEM USED		
		DUAL RAIL	CDS RELEASE GATE	OTHER (Explain)
CDS 1928 LBS	FM 10-500-3/ TO 13C7-1-11 Chapter 8	NO. PLATFORMS	NO. CONTAINERS	

26. TYPE PLATFORM/AIR-DROP CONTAINER	27. TYPE PARACHUTE AND NUMBER	28. SIZE EXTRACTION/RE-LEASE PARACHUTE	29. LENGTH OF REEFING LINE	30. POSITION OF LOAD IN AIRCRAFT
A-22	G-12E (1)	68-Inch Pilot Parachute	N/A	Gate FS 596 Pulley FS 617

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

At green light the static line retriever ran for more than 3 seconds. The primary loadmaster shut off the CDS switch. The 80 pound safety tie failed to break and the gate failed to cut.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

Upon inspection the retriever's winch beaded chains were 1/16 inch too short and the static line retriever cable compression spring was not properly seated in the cup, causing the retriever winch to work improperly. The malfunction could not be recreated on the ground.

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ANALYSIS: 40

WHAT WAS THE MALFUNCTION?

Winch failed to cut.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. Excessive slack in winch cable.
2. Clutch slipped on winch.
3. Improper aircrew rigging procedures.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

1. Replace Western Gear Static Line Retriever.
2. Check winch under load.
3. Contract new winch.
4. Perform proper maintenance inspection procedures.

I. GENERAL				
1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT	5. ACFT SER NO.
			MC-130H	
6. OPERATION/EXERCISE	7. DZ AND LOCATION		8. DATE AND TIME	
9. ACFT ALTITUDE (Feet)	10. ACFT SPEED (Knots)	11. DZ ELEVATION (Feet)	12. SURFACE WINDS (Knots)	13. VISIBILITY (Feet/Miles)
400 AGL	130	5610	Calm	Unlimited

III. CARGO				
23. TYPE LOAD AND WEIGHT	24. RIGGED IAW (TM/TO/NAVAIR No.)	25. AERIAL DELIVERY SYSTEM USED		
		DUAL RAIL	CDS RELEASE GATE	OTHER (Explain)
1428 LBS Bike Bundle	FM 10-527/ TO 13C7-55-1 Chapter 3	NO. PLATFORMS	NO. CONTAINERS 1	Type VIII Manual Cut
26. TYPE PLATFORM/AIR-DROP CONTAINER	27. TYPE PARACHUTE AND NUMBER	28. SIZE EXTRACTION/RE-LEASE PARACHUTE	29. LENGTH OF REEFING LINE	30. POSITION OF LOAD IN AIRCRAFT
Double A-22	1-G-12E	15 Foot Extraction T-10 Bag	N/A	Ramp

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

Load exited aircraft normally. The G-12E did not open completely. The load was destroyed on impact.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

Neither the aircrew loadmaster or the malfunction NCO could verify that the 15-foot extraction parachute had opened. Post drop investigation revealed that the 15-foot extraction parachute appeared to open due to its position on the ground (all ties were broken and the canopy was opened/spread out). There was no damage to the 15-foot extraction parachute. There was no damage to the G-12E parachute, however the deployment bag suffered minor rips and tears (probably due to impact with the ground). The risers and suspension lines of the G-12E deployed completely except for the last locking stow loop for the suspension lines. The canopy never came out of the deployment bag. The JAI and the aircrew loadmaster remember checking that the left secondary bag closing tie on the G-12E was removed IAW the TO. The static line and T-10 deployment bag were recovered and no abnormalities were noted. All personnel involved in the rigging and parachute packing process were qualified. All in-shop processes will be reviewed to ensure complianec with the applicable TOs. We could not determine the cause of this malfunction. NOTE: We have dropped three bike bundles rigged the same way as the malfunctioning load. All three were observed to have virtually no swing under the canopy before ground impact. We suspect that because of the drop zone altitude, density altitude, and pressure differential, there may be a problem with minimum airdrop drop altitudes when the drop zone altitude is as high as ours is.

CONTINUED ON NEXT PAGE

ANALYSIS: 41

WHAT WAS THE MALFUNCTION?

G-12E failed to deploy.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. Altitude too low for density altitude/ballistics.
2. Delay in deploying for unknown reasons.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

1. Look for trend on this type of bundle at low altitude.
2. Consider looking at ballistics.

I. GENERAL				
1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT	5. ACFT SER NO.
			C-130E	
6. OPERATION/EXERCISE	7. DZ AND LOCATION		8. DATE AND TIME	
9. ACFT ALTITUDE (Feet)	10. ACFT SPEED (Knots)	11. DZ ELEVATION (Feet)	12. SURFACE WINDS (Knots)	13. VISIBILITY (Feet/Miles)
650 AGL	140	372	5	5 SM

III. CARGO				
23. TYPE LOAD AND WEIGHT	24. RIGGED IAW (TM/TO/NAVAIR No.)	25. AERIAL DELIVERY SYSTEM USED		
		DUAL RAIL:	X CDS RELEASE GATE	OTHER (Explain)
CDS/995	FM 10-550-3/ TO 13C7-1-11 Chapter 10	NO. PLATFORMS:	NO. CONTAINERS: 5	
26. TYPE PLATFORM/AIR-DROP CONTAINER	27. TYPE PARACHUTE AND NUMBER	28. SIZE EXTRACTION/RELEASE PARACHUTE	29. LENGTH OF REEFING LINE	30. POSITION OF LOAD IN AIRCRAFT
A-22	26HV/1	NA	NA	FS 617

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

This was a 5-bundle single stick CDS with the CVR. At green light, the gate cut but the load initially failed to move. The crew correctly followed emergency procedures, but when the pilot was resetting the flaps, the four aft bundles exited the aircraft slowly (impacting 20 to 200 yards off the DZ boundary). The forward bundle jammed between the rails/CVR after it moved 150 inches and was restrained in the aircraft. There was no damage to equipment or injury to personnel.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

An investigation revealed the following. There were no problems with the CDS bundle/ skidboard. All aircrew procedures, including aircraft deck angle, were followed IAW MCR 55-130. The aircraft rollers were slightly misaligned, causing the fifth bundle to jam when manually pushed from its loaded location approximately 150 inches aft. This probably caused the other four to not initially move and then exit slowly. The jolt of the flaps moving when the pilot was resetting them caused the bundles to move; then the resulting lower deck angle along with the binding caused the last bundle to not exit.

CONTINUED ON NEXT PAGE

ANALYSIS: 42

WHAT WAS THE MALFUNCTION?

CDS bundles failed to exit.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

Rollers were misaligned.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

1. Inspect rollers for misalignment.
2. Look for trend on this cause.

I. GENERAL				
1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT	5. ACFT SER NO.
			C-130H	
6. OPERATION/EXERCISE	7. DZ AND LOCATION		8. DATE AND TIME	
9. ACFT ALTITUDE (Feet)	10. ACFT SPEED (Knots)	11. DZ ELEVATION (Feet)	12. SURFACE WINDS (Knots)	13. VISIBILITY (Feet/Miles)
400 AGL	130	1120	Calm	Infinity

III. CARGO				
23. TYPE LOAD AND WEIGHT	24. RIGGED IAW (TM/TO/NAVAIR No.)	25. AERIAL DELIVERY SYSTEM USED		
		DUAL RAIL:	X CDS RELEASE GATE	OTHER (Explain)
A-22 Container	FM 10-500-3/ TO 13C7-1-11 Chapter 8	NO. PLATFORMS:	NO. CONTAINERS: 1	

26. TYPE PLATFORM/AIR-DROP CONTAINER	27. TYPE PARACHUTE AND NUMBER	28. SIZE EXTRACTION/RELEASE PARACHUTE	29. LENGTH OF REEFING LINE	30. POSITION OF LOAD IN AIRCRAFT
	G-14 (2)			Rigged at FS 530

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

One of two G-14 parachutes separated from the CDS on deployment. No damage was incurred to the load or the remaining prachute that supported the CDS.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

The G-14 clevis assembly was improperly installed to the 120-inch connector strap.

CONTINUED ON NEXT PAGE

ANALYSIS: 43

WHAT WAS THE MALFUNCTION?

The G-14 parachute separated from the load.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

The parachute was not properly attached to the load.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Submit AFTO 22 to say that cotter key needs to be bent when used in G-12 clevis.

I. GENERAL				
1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT	5. ACFT SER NO.
			C-17A	
6. OPERATION/EXERCISE	7. DZ AND LOCATION		8. DATE AND TIME	
9. ACFT ALTITUDE *(Feet)*	10. ACFT SPEED *(Knots)*	11. DZ ELEVATION *(Feet)*	12. SURFACE WINDS *(Knots)*	13. VISIBILITY *(Feet/Miles)*

III. CARGO				
23. TYPE LOAD AND WEIGHT	24. RIGGED IAW *(TM/TO/NAVAIR No.)*	25. AERIAL DELIVERY SYSTEM USED		
		DUAL RAIL	X CDS RELEASE GATE	OTHER *(Explain)*
A-22 CDS/ 1015 LBS	FM 10-500-3/ TO 13C7-1-11 Chapter 9	NO. PLATFORMS: N/A	NO. CONTAINERS: 1	N/A
26. TYPE PLATFORM/AIR-DROP CONTAINER	27. TYPE PARACHUTE AND NUMBER	28. SIZE EXTRACTION/RE-LEASE PARACHUTE	29. LENGTH OF REEFING LINE	30. POSITION OF LOAD IN AIRCRAFT
A-22 CDS	1 G-12E	68-Inch Pilot Parachute	N/A	FS 975 Right

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

At the release point, the gate release mechanism (GRM) failed to release. The back-up switch was activated and it also failed. There was no damage to the aircraft or to the load.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

All parts of the GRM were found to be in good working order. There were no obvious reasons for the failure. It is the opinion of the McDonnell Douglas engineer that assisted with the investigation that a side load was imposed on the GRM by the way it was hooked up. This in turn put pressure on the rocker arm of the GRM and would not allow it to rock and release the gate. It was also found that there are two different types of GRMs that can be found on the aircraft. One is the 17P9G2000-503, the other is the -505. The -505 is the newest and incorporates a new hook design. The -503 is authorized on P-5 through P-10, the -505 on all others. It is currently being pursued by Wing Stan/Eval to standardize the same model on all aircraft. The particular model in this incident was a -503 and was compatible for this aircraft.

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ANALYSIS: 44

WHAT WAS THE MALFUNCTION?

GRM failed to release.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

Excessive side load.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

1. Look at adding safety tie to prevent binding.
2. Develop data and look for a trend.

I. GENERAL				
1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT	5. ACFT SER NO.
			C 141	
6. OPERATION/EXERCISE	7. DZ AND LOCATION		8. DATE AND TIME	
9. ACFT ALTITUDE (Feet)	10. ACFT SPEED (Knots)	11. DZ ELEVATION (Feet)	12. SURFACE WINDS (Knots)	13. VISIBILITY (Feet/Miles)
1300 MSL	135 Knots	479 Feet	3 Knots	

III. CARGO				
23. TYPE LOAD AND WEIGHT	24. RIGGED IAW (TM/TO/NAVAIR No.)	25. AERIAL DELIVERY SYSTEM USED		
		DUAL RAIL	CDS RELEASE GATE	OTHER (Explain)
A-21	FM 10-500-3/ TO 13C-7-11	NO. PLATFORMS	NO. CONTAINERS	Door Bundle
26. TYPE PLATFORM/AIR-DROP CONTAINER	27. TYPE PARACHUTE AND NUMBER	28. SIZE EXTRACTION/RE-LEASE PARACHUTE	29. LENGTH OF REEFING LINE	30. POSITION OF LOAD IN AIRCRAFT
A-21 Bundle	T-10 Cargo X 1	Door Bundle		

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

Total malfunction. Parachute did not deploy due to static line being severed. Load completely destroyed.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

Static line broken, possibly cut on sharp object. Bundle may have been improperly pushed from aircraft causing it to tumble.

CONTINUED ON NEXT PAGE

ANALYSIS: 45

WHAT WAS THE MALFUNCTION?

T-10 parachute did not deploy

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

1. Static line severed by sharp object.
2. Material was torn.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

1. Insufficient information.
2. Do not have any idea where on the static line it was cut so we could not determine possible culprit.
3. Ensure proper inspection procedures are followed.
4. Make sure equipment is serviceable.

I. GENERAL				
1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT	5. ACFT SER NO.
			MC-130E	
6. OPERATION/EXERCISE	7. DZ AND LOCATION		8. DATE AND TIME	
9. ACFT ALTITUDE (Feet)	10. ACFT SPEED (Knots)	11. DZ ELEVATION (Feet)	12. SURFACE WINDS (Knots)	13. VISIBILITY (Feet/Miles)
300 AGL	230	190	220/4	+5 Vis

III. CARGO				
23. TYPE LOAD AND WEIGHT	24. RIGGED IAW (TM/TO/NAVAIR No.)	25. AERIAL DELIVERY SYSTEM USED		
		DUAL RAIL	CDS RELEASE GATE	OTHER (Explain)
High Speed HS x 1	FM 10-542/ TO 13C7-51-21	NO. PLATFORMS	NO. CONTAINERS 1	HSLLADS
26. TYPE PLATFORM/AIR-DROP CONTAINER	27. TYPE PARACHUTE AND NUMBER	28. SIZE EXTRACTION/RE-LEASE PARACHUTE	29. LENGTH OF REEFING LINE	30. POSITION OF LOAD IN AIRCRAFT
	22-Foot Ring Slot			FS 700

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

This was a single HSLLADS (high speed) special operations training load rigged IAW -9 procedures. The load exited the aircraft normally and shortly after the 22-foot ring slot parachute opened, the parachute separated from the load and the load was destroyed.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

Subsequent investigation revealed the straps which secure the canvas bag and the parachute to the load had deteriorated becoming frayed and finally breaking from the stress of the opening shock of the parachute. It was also determined this condition was enhanced by a nail having inadvertently being driven through the strap during build-up of this training load. The nail was between the skidboard and bottom of the load making the condition impossible to detect without disassembling the load which is not a common practice as no requirement exists for this action. Corrective action: Rigging personnel will ensure nails are not inadvertently driven through retaining straps at any time or on any part of the strap.

CONTINUED ON NEXT PAGE

ANALYSIS: 46

WHAT WAS THE MALFUNCTION?

Parachute separated.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

Nail cutting suspension lines.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

1. Ensure nails are not pounded into suspension slings.
2. Ensure slings move freely on the platform.
3. Ensure proper inspections and rigging procedures are followed.

I. GENERAL

1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT	5. ACFT SER NO.
			C-17A	

6. OPERATION/EXERCISE	7. DZ AND LOCATION	8. DATE AND TIME

9. ACFT ALTITUDE (Feet)	10. ACFT SPEED (Knots)	11. DZ ELEVATION (Feet)	12. SURFACE WINDS (Knots)	13. VISIBILITY (Feet/Miles)
375 AGL	145	265	8	7 Miles Plus

III. CARGO

23. TYPE LOAD AND WEIGHT	24. RIGGED IAW (TM/TO/NAVAIR No.)	25. AERIAL DELIVERY SYSTEM USED			
Training CDS A-22 Container 900 LBS	FM 10-512/ TO 13C7-1-8 FM 10-500-3/ TO 13C7-1-11		DUAL RAIL	X CDS RELEASE GATE	OTHER (Explain)
		NO. PLATFORMS		NO. CONTAINERS	

26. TYPE PLATFORM/AIR-DROP CONTAINER	27. TYPE PARACHUTE AND NUMBER	28. SIZE EXTRACTION/RELEASE PARACHUTE	29. LENGTH OF REEFING LINE	30. POSITION OF LOAD IN AIRCRAFT
A-22	1 G-12E	N/A	N/A	Gate location 1

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

At the release point, the green light illuminated and the gate failed to release. The loadmaster actuated the ADS backup CDS REL switch and the gate still failed to release. The malfunction checklist was then accomplished.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

The Type XXVI nylon was routed through the gate release mechanism in such a way that it was contacting the hinge point. We believe this routing, although not covered in the technical order, caused the force applied by the gate to be applied to the hinge point end of the rocker arm instead of the release roller end, prohibiting release.

CONTINUED ON NEXT PAGE

ANALYSIS: 47

WHAT WAS THE MALFUNCTION?

GRM failed to release.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

Excessive side load.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Collect more data and investigate rigging procedures.

I. GENERAL

1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT	5. ACFT SER NO.
			C-130	

6. OPERATION/EXERCISE	7. DZ AND LOCATION	8. DATE AND TIME

9. ACFT ALTITUDE (Feet)	10. ACFT SPEED (Knots)	11. DZ ELEVATION (Feet)	12. SURFACE WINDS (Knots)	13. VISIBILITY (Feet/Miles)
425 AGL	130 Knots	335	5 Knots	5 Miles

III. CARGO

23. TYPE LOAD AND WEIGHT	24. RIGGED IAW (TM/TO/NAVAIR No.)	25. AERIAL DELIVERY SYSTEM USED			
		DUAL RAIL	X	CDS RELEASE GATE	OTHER (Explain)
105 HC Smoke 2065 LBS	FM 10-500-3/ TO 13C7-1-11 FM 10-500-53/ TO 13C7-18-41	NO. PLATFORMS		NO. CONTAINERS: 3	CVRS

26. TYPE PLATFORM/AIR-DROP CONTAINER	27. TYPE PARACHUTE AND NUMBER	28. SIZE EXTRACTION/RELEASE PARACHUTE	29. LENGTH OF REEFING LINE	30. POSITION OF LOAD IN AIRCRAFT
Single A-22	1 X G-12E	68-Inch Pilot Parachute	N/A	1 of 3

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

Load exited the aircraft, pilot parachute deployed. When the G-12 fully inflated the CDS bundle made some what of a snap causing the parachute to cut away from the load. Two suspension webs were severed. One was missing the connector snap although the suspension web was not cut. The other suspension web had the D-ring from the container attached to it (these were attached to the medium clevis on the G-12). Side 1 of the A-22 had a D-ring with 1/2 of a suspension web attached. Side 2 had a D-ring with nothing attached. Side 3 had a D-ring with a snap connector attached, however the snap connector was broken where the suspension web is sewn around it. Side 4 had the webbing cut with no D-ring recovered along with the other half of the suspension web. The load was 54 inches high with parachute and had 16 boxes of replicated 105mm.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

After the load left the ramp, it rotated with the top of the load facing almost straight down. At this point, one or two suspension webs could have broke (cut) and as the load began to recover in conjunction with the G-12 fully inflating, there was enough force to break the snap connector and other webbing or it could have happened in reverse order. Inspection of the air items did not show any worn or deteriorated material. There was no sign on the A22 cover showing any burn marks where the suspension webs may have come in contact with the cover.

CONTINUED ON NEXT PAGE

ANALYSIS: 48

WHAT WAS THE MALFUNCTION?

G-12 separated from the load.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

It was a 48 inch x 48 inch load on a 48 x 53 1/2 inch A-22 container causing the two slings to receive the opening shock and cut the slings.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Redesign the A-22 container to make the pad even for different loads.

I. GENERAL				
1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT	5. ACFT SER NO.
			C-17A	
6. OPERATION/EXERCISE	7. DZ AND LOCATION		8. DATE AND TIME	
9. ACFT ALTITUDE *(Feet)*	10. ACFT SPEED *(Knots)*	11. DZ ELEVATION *(Feet)*	12. SURFACE WINDS *(Knots)*	13. VISIBILITY *(Feet/Miles)*
375 R.A.	145	289	Calm	7+

III. CARGO				
23. TYPE LOAD AND WEIGHT	24. RIGGED IAW *(TM/TO/NAVAIR No.)*	25. AERIAL DELIVERY SYSTEM USED		
		DUAL RAIL:	X CDS RELEASE GATE:	OTHER *(Explain)*:
CDS-1050 CDS- 850	FM 10-500-3/ TO 13C7-1-11	NO. PLATFORMS:	NO. CONTAINERS: 2	
26. TYPE PLATFORM/AIR-DROP CONTAINER	27. TYPE PARACHUTE AND NUMBER	28. SIZE EXTRACTION/RE-LEASE PARACHUTE	29. LENGTH OF REEFING LINE	30. POSITION OF LOAD IN AIRCRAFT
A-22	G-12E	N/A	N/A	850/800

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

During the preslowdown checklist, the CDS gate select switch on the aft left loadmaster panel was set on three. During the slowdown it was armed. At the green light sequence of the release point, checklist both the #2 and #3 released. LOAD EXITED AIRCRAFT IN NORMAL FASHION.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

The aircraft was inspected upon arrival. Duplication of malfunction was demonstrated on the ground. Upon closer inspection, it was determined that the CDS gate select switch at the aft left loadmaster control panel indicated it was in the #3 position when in fact it was in the #2 position. The gate select switch appeared to be loose and out of rig. This situation verified the loadmasters statements concerning preflight and actual inflight airdrop operations. The aircraft was restricted from performing airdrops from the aft left loadmaster panel (CDS) until corrective maintenance action is performed. BOTTOM LINE: BAD SWITCH RESULTED IN RELEASE OF BOTH RELEASE GATES.

CONTINUED ON NEXT PAGE

ANALYSIS: 49

WHAT WAS THE MALFUNCTION?

Two containers released instead of one.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

Switch misaligned.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

1. Make sure switch is aligned.
2. Check other aircraft for this problem

I. GENERAL

1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT	5. ACFT SER NO.
			C-130E	

6. OPERATION/EXERCISE	7. DZ AND LOCATION	8. DATE AND TIME

9. ACFT ALTITUDE (Feet)	10. ACFT SPEED (Knots)	11. DZ ELEVATION (Feet)	12. SURFACE WINDS (Knots)	13. VISIBILITY (Feet/Miles)
750 MSL	130	140	040-6 Knots	Unlimited

III. CARGO

23. TYPE LOAD AND WEIGHT	24. RIGGED IAW (TM/TO/NAVAIR No.)	25. AERIAL DELIVERY SYSTEM USED		
CDS 1100 LBS	FM 10-500-3/ TO 13C7-1-11 Chapters 8, 9, 10	DUAL RAIL	CDS RELEASE GATE	OTHER (Explain)
		NO. PLATFORMS	NO. CONTAINERS	
			1	

26. TYPE PLATFORM/AIR-DROP CONTAINER	27. TYPE PARACHUTE AND NUMBER	28. SIZE EXTRACTION/RE-LEASE PARACHUTE	29. LENGTH OF REEFING LINE	30. POSITION OF LOAD IN AIRCRAFT
A-22 Container	G-12E (1)	68-Inch Pilot Parachute		Pulley Location FS 530 Gate Location FS 500

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

Left static line retriever winch started to rewind prior to arming the CDS switch during the slowdown checklist. Type XXVI nylon gate cut and winch kept rewinding until the circuit breaker was pulled. Loadmaster called malfunction and the bundle was secured. Aircraft preflight was normal. No write ups in the forms. Winch cable rewound into winch. The compression spring and beaded chains were destroyed. The cable was separated just prior to the adapter. The pulley was damaged. The 95-inch 1-inch pulley strap ripped in half. No injuries.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

Maintenance reportedly found a bad voltage regulator. The airplane just came from the AFB and they are trying to get more history.

CONTINUED ON NEXT PAGE

ANALYSIS: 50

WHAT WAS THE MALFUNCTION?

Retriever winch activated on its own.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

Unknown.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Unknown

I. GENERAL				
1. UNIT BEING AIRLIFTED	2. DEPARTURE AIRFIELD	3. DATE	4. TYPE ACFT	5. ACFT SER NO.
			C-130E	

6. OPERATION/EXERCISE	7. DZ AND LOCATION	8. DATE AND TIME

9. ACFT ALTITUDE (Feet)	10. ACFT SPEED (Knots)	11. DZ ELEVATION (Feet)	12. SURFACE WINDS (Knots)	13. VISIBILITY (Feet/Miles)
650 AGL	130	372	Calm	5 Miles

III. CARGO					
23. TYPE LOAD AND WEIGHT	24. RIGGED IAW (TM/TO/NAVAIR No.)	25. AERIAL DELIVERY SYSTEM USED			
			DUAL RAIL	X CDS RELEASE GATE	OTHER (Explain)
CDS X 5 Total 4935	FM 10-500-3/ TO 13C7-1-11 Chapter 9	NO. PLATFORMS	NO. CONTAINERS		
			5		

26. TYPE PLATFORM/AIR-DROP CONTAINER	27. TYPE PARACHUTE AND NUMBER	28. SIZE EXTRACTION/RE-LEASE PARACHUTE	29. LENGTH OF REEFING LINE	30. POSITION OF LOAD IN AIRCRAFT
A-22	26 HV	N/A	N/A	FS 617

31. DESCRIPTION OF MALFUNCTION/FAILURE/ DAMAGE INCURRED (if more space is needed, continue on reverse.)

This was a five bundle CDS with the CVR. At green light, the gate cut and the load started to move aft. After approximately 60 inches, the four forward bundles slowed down, leaving the aft one to exit approximately 9 seconds before the rest. The last four continued to exit (slowly), with normal deployment, landing 540 yards (#2) past the first container. The #5 container landed off the DZ.

32. CAUSE OF MALFUNCTION/FAILURE (If more space is needed, continue on reverse.)

The CVR system could be a possible contributing factor in the delayed exit of the loads. An investigation showed no problems with the aircraft, CVR or the load. All aircrew procedures were correctly followed IAW MCR 55-130 (deck angle, air speed, flap setting, rigging procedures, etc.).

CONTINUED ON NEXT PAGE

ANALYSIS: 51

WHAT WAS THE MALFUNCTION?

CDS slow to exit.

WHAT COULD HAVE CAUSED THIS TO HAPPEN?

All possible causes were covered in off DZ board. No cause found.

WHAT SHOULD YOU DO TO KEEP THIS FROM HAPPENING?

Looking for a trend.

SUMMARY OF
SUPPLY AND EQUIPMENT DROPS

2D TRIANNUAL CY 1997

	PLATFORM LOAD		SINGLE CONTAINER		CDS		LAPE		TOTAL	
Number of Drops	1609		511		1025		0		3145	
Number of Malfunctions	16		2		14		0		32	
Percentage of Malfunctions	0.932		0.391		0.137		0		0.986	
Malfunction Phases:	IP	EF	IP	EF	IP	EF	IP	EF	IP	EF
Extraction	8	1	0	0	1	1	0	0	9	2
Deployment-Recovery	7	0	1	0	1	3	0	0	9	3
Release	0	0	0	1	1	7	0	0	1	8

IP-Incorrect Procedures EF-Equipment Failure

SUMMARY OF
PERSONNEL PARACHUTE JUMPS

2D TRIANNUAL CY 1997

		C-130	C-141	OTHER	TOTAL
Nonmaneuverable	Number of Deployments	34,650	20,552	2,259	57,461
	Number of Malfunctions	14	6	0	20
	Percentage of Malfunctions	0.040	0.029	0	0.034
Maneuverable	Number of Deployments	8, 309	1,430	6,068	15,807
	Number of Malfunctions	0	0	0	0
	Percentage of Malfunctions	0	0	0	0
Free-Fall	Number of Deployments	1,264	77	1,346	2,687
	Number of Malfunctions	1	0	3	4
	Percentage of Malfunctions	0.079	0	0.222	0.148
Total	Number of Deployments	44,223	22,059	9,673	75,955
	Number of Malfunctions	15	83	3	24
	Percentage of Malfunctions	0.002	0.376	0.031	0.031

SUMMARY OF
PERSONNEL PARACHUTE MALFUNCTIONS

2D TRIANNUAL CY 1997

	NON-MANUEVERABLE	*	MANUEVERABLE	*	FREE-FALL	*	RESERVE	*
Number of Deployments	57,461		15,807		2,687		6	
Number of Malfunctions	21	*	1		5		0	
Towed jumper	0		0		0		0	
Broken Static Line	0		0		0		0	
Entanglement	8	*	1		0		0	
Failed to Inflate	0		0		0		0	
Inversion	0		0		0		0	
Pilot Chute	0		0		0		0	
Semi-Inversion	0		0		0		0	
Suspension Lines	0		0		0		0	
Other	13	*	0		5		0	
Percentage of Malfunctions	0.037		0.063		0.019		0	
Fatalities	1	*	0		0		0	

*Injuries

INJURIES OCCURRING ON PARACHUTE OPERATIONS
AS REPORTED ON DA FORM 285

1 APRIL - 30 JUNE 1997

	C-130	C-141	UNKNOWN	TOTAL
PLF-Related Injuries	9	9	20	38
Main Malfunction	0	0	0	0
Misrouting of Static Line	0	0	1	1
Entanglements	3	0	3	6
Tree Landings	0	0	1	1
In Aircraft	0	0	1	1
Hazards on Drop Zone	1	1	2	4
Other	0	0	12	12
Insufficient Information	0	0	0	0

AIRCRAFT MALFUNCTIONS

These malfunction reports are not included in the statistical data nor reflected in the percentage of malfunctions. All aircraft systems malfunctions which may have led to an abort or no-drop are constantly reviewed and analyzed for repeat or recurring trends and solutions. Corrective actions are recommended through Air Force maintenance systems.

PERSONNEL DROPS	
Improperly operating doors or ramps	0
Static line retriever	0
SUPPLY AND EQUIPMENT DROPS	
Rail locks	3
Improperly operating ADS	0
Improperly operating doors or ramps	0
Release mechanism	1
Electrical system	0
CONTAINER DROPS	
Rollers	1
Type XXVI gate	6
Static line retriever	0
TOTAL	11

GO TO MINUTES

HOT POOP

UNCLASSIFIED

061500Z FEB 97 RR RR UUUU ZYUW AD-PUBS-M

NO

UNCLAS

SUBJECT: TRIANNUAL AIRDROP REVIEW AND MALFUNCTION/SAFETY ANALYSIS WEB SITE

1. THE TRIANNUAL AIRDROP REVIEW AND MALFUNCTION/SAFETY ANALYSIS (TARM/SA) WILL BE AVAILABLE ONLY THROUGH THE U.S. ARMY QUARTERMASTER CENTER AND SCHOOL, AERIAL DELIVERY AND FIELD SERVICES DEPARTMENT WEB SITE. HARD COPIES WILL NO LONGER BE MAILED OUT. TARM/SA RESULTS VOLUME 199 IS CURRENTLY ACCESSIBLE THROUGH THE WEB SITE.

2. THE AERIAL DELIVERY AND FIELD SERVICES DEPARTMENT'S WEB SITE ADDRESS IS HTTP://LEE-DNS1.ARMY.MIL/QUARTERMASTER/ADFSD.HTML

3. THE WEB PAGE ALSO CONTAINS INFORMATION ON THE AERIAL DELIVERY DIVISION, THE FIELD SERVICES DIVISION, THE SLING LOAD OFFICE, AND THE AIRDROP MANUAL AND MALFUNCTION OFFICE.

4. SPECIFIC INFORMATION ON THE SLING LOAD ISNPECTOR CERTIFICATION COURSE IS ALSO AVAILABLE ON THE WEB PAGE. INCLUDED IN THE INFORMATION PACKET ARE COURSE DATES, DATES FOR MOBILE TRAINING TEAM VISIT, AND THE POINT OF CONTACT.

ROGER HALE, C ADMMO, FORT LEE VA
ATSM-ADFSD DSN 687-4769